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THE PLANT DISEASE REPORTER

Issued by

THE PLANT DISEASE SURVEY, DIVISION OF MYCOLOGY AND DISEASE SURVEY
BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING
AGRICULTURAL RESEARCH ADMINISTRATION
UNITED STATES DEPARTMENT OF AGRICULTURE

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The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

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John A. Stevenson has compiled a list of recommended abbreviations for citation of authors of plant parasites, page - 336.

Investigations in Virginia reported by Wilbert A. Jenkins, page - 395 suggest that the meadow nematode is a primary factor in tobacco root-rot complexes.

Tobacco downy mildew in the Carolinas is responsible for considerable delay in setting out plants, according to R. E. Atkinson, page - 398.

Late blight appeared on potato sprouts from tubers without visible lesions in controlled experiments in Minnesota reported by W. D. Thomas, Jr., page - 399. Occurrence of the disease, page - 399, is reported in Louisiana and Mississippi by Douglas C. Bain, in South Carolina by C. N. Clayton, and in Georgia by G. M. Stone; according to George E. Altsatt it has become inactive in the Texas Lower Rio Grande Valley area.

Nematode survey in Florida, by A. L. Taylor, page - 403.

Condition of seed potatoes in Massachusetts, by R. C. Cassell, page - 403.

Reports on transit and storage diseases of potatoes and squash, page - 405.

Horace L. Barnett and William C. Snyder describe a crown necrosis of lettuce in California, page - 405.

Reports on condition and diseases of vegetable crops, page - 407.

Coit A. Suneson reports year-round presence of stem on wheat in California, page - 410.

Conditions affecting cereal crops in Kansas are reported by C. O. Johnston, page - 413.

Reports on diseases of cereal crops, page - 414 include notes on condition in Ohio by M. R. Harris, occurrence of a sclerotial disease on wheat in Missouri, by T. W. Bretz; snow scald and stem rust of wheat in Washington, by E. J. Anderson; and flax wilt in Arizona, by Wm. G. Hoyman.

A PRELIMINARY LIST OF AUTHORS OF PLANT PARASITES WITH RECOMMENDED ABBREVIATIONS

John A. Stevenson

The International Rules of Botanical Nomenclature, which are official for the Bureau of Plant Industry, Soils and Agricultural Engineering under the provisions of Bureau memorandum no. 1123, provide in Section 7 for the "citations of author's names for purposes of precision".

Accordingly in connection with the revision of the Check List of Diseases of Economic Plants of the United States by Freeman Weiss, which has been appearing in the Plant Disease Reporter, it has seemed advisable to present a list of the authors of the parasitic forms therein recorded with recommended abbreviations. The names given here are, of course, primarily those of mycologists, but a few phanerogamic botanists, virologists, nematologists, and bacteriologists are included, since some of their species, concerned as plant parasites, occur in the revised check list. In addition to names appearing in the check list those occurring in Bureau publications in recent years have been compiled and are here included.

In those instances in which an abbreviation of a given author's name has seemed desirable recommendation XXX of the Rules has been followed in general.

The essentials of this recommendation are as follows: "Authors' names put after names of plants are abbreviated, unless they are very short. For this purpose preliminary letters are suppressed and the first letters are given without any omission. If a name of one syllable is long enough to make it worthwhile to abridge it, the first consonants only are given; if the name has two or more syllables, the first syllable and the first letter of the following one are taken, or the two first when both are consonants. Christian names or accessory designations, serving to distinguish two botanists of the same name are abridged in the same way. When it is a well established custom to abridge a name in another manner, it is best to conform to it. (L. for Linnaeus)".

A consideration of the present fairly extensive list of names will make it evident, however, that in the interests of clarity, and to avoid ambiguity, abbreviations cannot be employed as extensively as might otherwise be thought possible from the wording of Recommendation XXX, or as they have been in practice heretofore.

The botanical catalogue of the Department of Agriculture library has been drawn on freely in the preparation of this list and various published works including North American Flora, American Men of Science, and Sydow's Thesaurus have contributed data. Particular acknowledgment is made to Dr. H. W. Rickett, Bibliographer of the New York Botanical Garden, for his kindness and patience in checking the uncompleted entries with the biographical records in his care at the Garden.

Corrections as well as any general comment or criticisms will be welcomed in order that in its final form, as part of the completed check list, this list may be as authoritative and complete as possible.

Abbott, Ernest Victor	1899-	Abbott
Adam, D. B.		Adam
Adams, James Fowler	1888-	Adams
Adanson, Michel	1727-1806	Adans.
Aderhold, Rudolph	1865-1907	Aderh.
Afzelius, Adam	1750-1837	Afzel.
Albertini, Johannes Baptista von	1769-1831	Alb.
Allen, Thomas Cort	1899-	T. C. Allen
Allescher, Andreas	1828-1903	Allesch.
Almeida, Floriano Paulo de . . .		Almeida
d'Almeida, J. V. (See Verissimo d'Almeida)		Alm.
Alvarez Garcia, Luis A.		Alvarez Garcia
Ames, Lawrence Marion	1900-	Ames
Anastasia, Guiseppe Emilio . . .	1870-1934	Anas.
Anderson, Frederick William . . .	1866-1891	F. W. Anderson
Anderson, Harvey Warren	1885-	H. W. Anderson
Anderson, Paul Johnson	1884-	P. J. Anderson
Andrus, Charles Frederick	1906-	Andrus
Appel, Otto	1867-	Appel
Arcangeli, Giovanni	1840-1921	Arcang.
Archer, William Andrew	1894-	Archer
Arde, Walker Robert	1902-	Arde
Ark, Peter Alexander	1899-	Ark
Arnaud, Gabriel	1882-	Arn.
Arthaud-Berthet, ...		Arth.-Ber.
Arthur, John Morris	1893-	J. M. Arth.
Arthur, Joseph Charles	1850-1942	Arth.
Ashby, Sidney Francis	1874-	Ashby
Atkinson, George Francis	1854-1918	Atk.
Auerswald, Bernhard	1818-1870	Auers.
Authors		Auth.
Avellar Brotero, Felix de	See Brotero	
Averna-Saccá, Rosario		Averna-Saccá
Ayres, Theodore Thomas	1900-	Ayres
Baccarini, Pasquale	1858-1919	Bacc.
Badham, Charles David	1806-1857	Badh.
Baeumler, Johann Andreas	1847-1879	Baeumler
Baglietto, Francesco	1826-1916	Bagl.
Bagnis, Carlo	1854-1879	Bagnis
Bain, Douglas Cogburn	1908-	D. Bain
Bain, Samuel McCutcheon	1869-1919	Bain
Baines, Richard Cecil	1905-	Baines
Bainier, Georges	? -1920	Bainier
Baker, Charles Fuller	1872-1927	C. Baker
Baker, Kenneth Frank	1908-	K. F. Baker
Bakke, Arthur Lawrence	1886-	Bakke
Balbis, Giovanni Battista	1765-1831	Balb.
Banker, Howard James	1866-1940	Banker
Banning, Mary Elizabeth	1832-1901	Banning

Barbarini,		Barbarini
Barbour, W. J.		Barbour
Barclay, Arthur	1852-1891	Barclay
Barla, Jean Baptiste	1817-1896	Barla
Barrett, James Theophilus	1876-	Barrett
Barrus, Mortier Franklin	1879-	Barrus
Barss, Howard Philipps	1885-	Barss
Bartholomew, Elam	1852-1934	Barth.
Bartholomew, Elbert Thomas	1878-	E. T. Barth.
Bary, Heinrich Anton de	1831-1888	D By.
Bastian, Henry Charlton	1837-1915	Bast.
Batsch, August Johann Georg Carl	1761-1802	Batsch
Battarra, Giovanni Antonio	1714-1789	Batt.
Baudyš, Eduard		Baudyš
Bauhin, Jean	1541-1613	Bauhin
Baxter, Dow Vawter	1898-	Baxter
Bayliss Elliott, Jessie Sproat		Bayl.-Elliott
Beach, Walter Spurgeon	1890-	Beach
Beardslee, Henry Curtis	1865-	Beardslee
Beaumont, Albert	1901-	Beaum.
Beauvois see Palisot de Beauvois		Beauv.
Beccari, C.		Becc.
Beck von Mannagetta, Günther	1856-1931	G. Beck.
Beckmann, Johann	1739-1811	Beckm.
Beeley, Fred		Beeley
Beeli,		Beeli
Beers, Alma Holland		Beers
Beijerinck, Martinus Willem	1851-1931	Beijer.
Bel, Jules		Bel
Bell, Hugh Philip	1889-	Bell
Bellynck, Auguste Alexis Adolphe Alexandre	1814-1877	Bellynck
Beltrani, V.		Beltr.
Benatar, Rubens		Benatar
Bender, Harold Bohn	1902-	Bender
Bennett, Alfred William	1833-1902	A. W. Bennett
Bennett, Carlyle Wilson	1895-	Bennett
Bennett, Frederick Thomas		F. T. Bennett
Bennett, James Lawrence	1832-1904	J. L. Bennett
Bentham, George	1800-1884	Benth.
Berdan, Helen Berenice	1901-	Berdan
Berenger, Guiseppe Adolfo de	1815-1895	Bereng.
Berg, Anthony	1888-	Berg
Bergamaschi, Guiseppe	1785-1867	Bergam.
Bergamaschi, Maria		M. Bergam.
Bergey, David Hendricks	1860-1937	Bergey
Berkeley, Miles Joseph	1803-1889	Berk.
Berkhout, Christine Marie		Berkhout
Berlese, Antonio	1863-1927	A. Berl.
Berlese, Augusto Napoleone	1864-1903	Berl.
Bernard, Charles Jean	1876-	Bernard

Bernard, Georges		G. Bernard
Berry, Edward Wilber	1875-	Berry
Bertero, Carlo Giuseppe	1789-1831	Bert.
Berthet, Arthaud see Arthaud-Berthet		Arth.-Ber.
Berthold, A.		A. Berth.
Berthold, Gottfried Dietrich Wilhelm	1854-1937	Berth.
Bessey, Charles Edwin	1845-1915	Bessey
Bessey, Ernst Athearn	1877-	E. A. Bessey
Bethel, Ellsworth	1863-1925	Bethel
Beyrich, Heinrich Karl	1796-1834	Beyr.
Biedenkopf, Hermann	1870-	Bied.
Biggs, Rosemary Peyton	1912-	Biggs
Billings, John Shaw	1838-1913	Billings
Biourge, Philibert Melchior Joseph Ehislam	1864-	Biourge
Bisby, Guy Richard	1889-	Bisby
Bitancourt, Agesilau Antonio	1894-	Bitanc.
Bivona-Bernardi, Antonio	1774-1837	Biv.-Bern.
Bizzozero, Giacomo	1852-1885	Bizz.
Bjerkander, Clas	1735-1795	Bjerk.
Blasdale, Walter Charles	1871-	Blasd.
Bliss, Donald Everett	1903-	Bliss
Bloxam, Andrew	1801-1878	Blox.
Bloxam, Richard Rowland	1798-1877	R. Blox.
Blume, Karl Ludwig von	1796-1862	Blume
Blumer, Samuel		Blumer
Blytt, Axel Gudbrand	1843-1898	Blytt
Boedijn, Karel Bernard	1893-	Boed.
Bolle, Pierette Cornelie	1893-	Bolle
Bolley, Henry Luke	1865-	Bolley
Boltshauser, Heinrich	1853-1899	Boltsh.
Bolton, James	17 ?-1799	Bolt.
Bommer, Elisa Caroline (Destrée)	1832-1910	Bomm.
Bonar, Lee	1891-	Bonar
Boncquet, Pierre August	1882-	Boncquet
Bondar, Gregorio		Bondar
Bondartsev (Bondartzev), Apollinaris Semenovich	1877-	Bond.
Bondartzev-Monteverde, Vera N. (Bondarzewa-Monteverde, Vera N.)	1889-	Bond.-Mont.
Bonorden, Hermann Friederich	1801-1884	Bon.
Borzi, Antonio	1852-1921	Borzi
Bosc, Louis Augustin Guillaume	1759-1828	Bosc
Boudier, Jean Louis Émile	1828-1920	Boud.
Boughey, Arthur Stanley		Boughey
Bourdot, Hubert	1861-1937	Bourd.
Bouriquet, Gilbert		Bouriquet
Boyd, Emma Sophia		Boyd
Boyer, Gaston		G. Boyer
Boyer, Leon		Boyer

Braun, Alexander Carl Heinrich . . .	1805-1877	A. Braun
Braun, Hans	1896-	Hans Braun
Braun, Harry	1895-	H. Braun
Breda de Haan, Jacob van	-1917	Breda de Haan
Brefeld, Oscar	1839-1925	Bref.
Brenckle, Jacob Frederick	1875-	Brenckle
Bresadola, Giacomo	1847-1929	Bres.
Briard, Pierre Alfred	1811-1896	Briard
Brick, Carl	1863-1924	Brick
Briosi, Giovanni	1846-1919	Briosi
Britzelmayr, Max	1839-1909	Britz.
Brizi, Ugo	1868-	Brizi
Brockman-Jerosch, Heinrich	1879-1939	Brockm.
Brondeau, Louis de	1794-1859	Brond.
Brongniart, Adolphe Théodore . . .	1801-1876	Brongn.
Brooks, Charles	1872-	C. Brooks
Brooks, Frederick Tom	1882-	F. T. Brooks
Broome, Christopher Edmund	1812-1886	Br.
Brotero, Felix de Avellar	1744-1828	Brot.
Brown, James Greenlief	1880-	J. G. Brown
Brown, Nellie Adalesa	1877-	N. A. Brown
Brunaud, Paul		Brun.
Brunchorst, J.		Brunch.
Bruner, Stephen Cole	1891-	Bruner
Brushi, ...		Brushi
Bryan, Mary Katherine	1877-	Bryan
Bubák, František	1865-1925	Bub.
Buchanan, Robert Earle	1883-	Buch.
Buchwald, Niels Fabritius	1898-	Buchw.
Buddin, Walter	1890-	Budd.
Buhrer, Edna Marie	1898-	Buhrer
Buisman, Christine Johanna	1900-1936	Buis.
Buller, Arthur Henry Reginald . . .	1874-	Buller
Bulliard, Jean Baptiste François	1752-1793	Bull.
Bundy, William F.		Bundy
Burgwitz, Georg K.	1889-	Burgw.
Burkholder, Walter Hagemeyer . . .	1891-	Burk.
Burlingham, Gertrude Simmons . . .	1872-	Burl.
Burrill, Thomas Jonathan	1839-1916	Burr.
Burt, Edward Angus	1859-1939	Burt
Burton, Mary Gwendolyn	1917-	Burton
Büsgen, Moritz	1858-1921	Büsgen
Butler, Edwin John	1874-1943	Butl.
Butler, Ellys Theodora	1906-	E. Butl.
Buxbaum, Johann Christian	1693-1730	Buxb.
Caballero, Arturo		Cab.
Cain, Roy Franklin	1906-	Cain
Caldis, Panos Demetrius	1896-	Caldis
Caldwell, Ralph Merrill	1903-	Caldwell
Camara, Manuel de Sousa da		Camara

Campanile see Rivera Campanile		Campanile
Campbell, Leo	1894-	L. Campbell
Campbell, William Andrew	1906-	Campbell
Candolle see de Candolle		DC.
Carestia, Antonio	1825-1908	Car.
Carleton, Mark Alfred	1866-1925	Carleton
Carmichael, Dugald	1772-1827	Carmichael
Carne, Walter Merryn	1885-	Carne
Carpenter, Clarence Willard	1888-	Carpenter
Carsner, Eubanks	1891-	Carsner
Carter, Carlos Newton		C. N. Carter
Carter, James Cedric	1905-	J. C. Carter
Carver, George Washington	1864(?)-1943	Carver
Cash, Edith Katherine	1890-	Cash
Caspary, Johann Xavier Robert	1818-1887	Casp.
Castagne, Jean Louis Martin	1785-1858	Cast.
Cattaneo, Achille	1839-	Catt.
Cavara, Fridiano	1857-1929	Cav.
Cesati, Vincenzo de	1806-1883	Ces.
Chaillet, Jean Frederic de	1747-1839	Chaillet
Chardon, Carlos Eugenio	1897-	Chardon
Charles, Vera Katherine	1878-	Charles
Cheo, C. C.		Cheo
Chester, Frederick Dixon	1861-1943	Chester
Chevallier, François Fulgis	1796-1840	Chev.
Child, Marion		Child
Childs, Le Roy	1888-	Childs
Chivers, Arthur Houston	1880-	Chivers
Choisy, Jacques Denis	1799-1859	Choisy
Christensen, Clyde Martin	1905-	C. Christensen
Christie, Jesse Roy	1889-	Christie
Christopher, Warren Neil	1895-	Christopher
Chupp, Charles David	1887-	Chupp
Church, Margaret Brooks	1889-	Church
Ciferri, Rafael	1895-	Cif.
Clapp, Grace Lucretia	1881-	Clapp
Clara, Feliciano Mercado	1896-	Clara
Clark, Judson Freeman	1890-	Clark
Clausen, Roy Elwood	1891-	Clausen
Clements, Frederick Edward	1874-	Clements
Clinton, George Perkins	1867-1937	Clint.
Clinton, George William	1807-1885	G. W. Clint.
Cobb, Nathan Augustus	1859-1932	Cobb
Cocconi, Girolamo	1822-1904	Cocc.
Cockerell, Theodore Dru Alison	1866-	Cockerell
Coerper, Florence Maud		Coerper
Cohn, Ferdinand Julius	1828-1898	Cohn
Coker, William Chambers	1872-	Coker
Colby, Arthur Samuel	1887-	Colby
Cole, John Rufus	1900-	Cole

Committee of the Society of American Bacteriologists		Com. S. A. B.
Conant, Norman Francis	1908-	Conant
Conn, Harold Joel	1886-	Conn
Cook, Melville Thurston	1869-	Cook
Cook, Orator Fuller	1867-	O. F. Cook,
Cooke, Mordecai Cubitt	1825-1914	Cke.
Cooke, William Bridge	1908-	W. B. Cke.
Coons, George Herbert	1885-	Coons
Copeland, Edwin Bingham	1873-	Copeland
Corda, August Carl Josef	1809-1849	Cda.
Cordier, François Simon	1797-1874	Cord.
Cordley, Arthur Burton	1864-1936	Cordley
Cornu, Marie Maxime	1843-1901	Cornu
Costantin, Julien	1857-1936	Cost.
Cotton, Arthur Disbrowe	1879-	Cotton
Couch, John Nathaniel	1896-	Couch
Coulter, John Merle	1851-1928	Coult.
Coville, Frederick Vernon	1867-1937	Coville
Cragin, Francis Whittemore	1858-1937	Cragin
Crandall, Bowen Sinclair	1909-	Crandall
Crossland, Charles	1884-1916	Crossl.
Crouan, Pierre Louis	1798-1871	Crouan
Crowell, Ivan Herrett	1904-	Crowell
Cruchet, Paul	1875-	Cruch.
Cuboni, Giuseppe	1852-1920	Cub.
Cugini, Gino	1852-1907	Cugini
Cummins, George Baker	1904-	Cumm.
Cunningham, David Douglas	1843-1914	D. D. Cunn.
Cunningham, Gordon Herriot	1892-	Cunn.
Currey, Frederick	1819-1881	Curr.
Currie, James Nimrod	1883-	Currie
Curtis, Moses Ashley	1808-1872	Curt.
Curtis, William	1746-1799	W. Curt.
Curzi, Mario	1898-	Curzi
Dade, Harry Arthur		Dade
Dalbey, Nora Elizabeth	1888-1932	Dalbey
Dana, Bliss F.	1891-	Dana
Dangeard, Pierre Augustin Clement	1862-	Dang.
Daniels, Eve Ypin		Daniels
Darker, Grant Dooks	1898-	Darker
Darnell-Smith, George Percy	1868-1942	Dar.-Sm.
Dassier de la Chassagne, Henri Gabriel Benoit	1748-1816	Dass.
Dastur, Jehangir Fardunji	1886-	Dast.
Davidson, Ross Wallace	1902-	Davidson
Davis, Alva Raymond	1887-	A. R. Davis
Davis, Benjamin Harold	1905-	B. H. Davis
Davis, John Jefferson	1852-1937	J. J. Davis
Davis, Marguerite Carolyn (Widmann)	1903-	M. C. Davis

Davis, William Harold	1876-	W. H. Davis
Dearness, John	1852-	Dearn.
DeBary, Anton	1831-1888	D By.
DeCandolle, Augustin Pyramus	1778-1841	DC.
DeJonge,		DeJonge
DeLacroix see Lacroix		De Lac.
Delacroix, Edouard Georges	1858-1907	Del.
De Man, Johannes Govertus	1850-1930	De Man
Demaree, Juan Brewer	1885-	Demaree
Demetrio, Charles Hermann	1845-1936	Dem.
De Notaris, Giuseppe [see Notaris]	1805-1877	De N.
De Seynes, Jules [see Seynes]	1833-1912	De Seyn.
Desmazières, Jean Baptiste Henri Joseph	1767-1862	Desm.
Desvaux, Nicaise Auguste	1784-1856	Desv.
De Toni, Giovanni Battista	1864-1924	De T.
De Wildeman, Emile	1866-	De Wild.
Dick, Esther Amelia	1909	Dick
Dickson, James	1738-1822	Dicks.
Diedicke, Hermann	1865-	Died.
Diehl, William Webster	1891-	Diehl
Dierckx, Fr.		Dierckx
Dietel, Paul	1860-	Diet.
Dietrich, Albert	1795-1856	Dietr.
Dietrich, Heinrich August	(fl. 1852-1859)	H. Dietr.
Dillenius, Johann Jakob	1684-1747	Dill.
Ditmar, L. P. Fr.		Ditm.
Dodge, Bernard Ogilvie	1872-	B. O. Dodge
Dodge, Carroll William	1895-	C. W. Dodge
Doidge, Ethel Mary		Doidge
Dominick,		Dominick
Donk, M. A.		Donk
Dordevic, Peter		Dordevic
Dorogen, Georg Nikolaevich		Dorogen
Dorsett, Palemon Howard	1862-1943	Dorsett
Dowson, Walter John	1887-	Dows.
Dozy, François	1807-1856	Dozy
Drayton, Frank Lisle	1892-	Drayt.
Drechsler, Charles	1892-	Drechs.
Drummond, Octavio A.		Drummond
Duby, Jean Étienne	1798-1885	Duby
Ducomet, Vital		Ducom.
Dudley, William Russell	1849-1911	Dudl.
Dufour, Marie Léon	1861-	Duf.
Dufrenoy, Jean	1894-	Dufr.
Duggar, Benjamin Minge	1872-	Dugg.
Duke, Maude M.		Duke
Dunegan, John Clymer	1898-	Dunegan
Dunlap, Albert Atkinson	1902-	Dunlap
Durand, Elias Judah	1870-1922	Durand

Durieu de Maisonneuve, Michel Charles . .	1796-1878	Dur.
Duss, Antoine	1840-1924	Duss
Duval, Charles Jeunet	1751-1828	Duval
Earle, Franklin Sumner	1856-1929	Earle
Eddy, E. D.		Eddy
Edgerton, Claude Wilbur	1880-	Edg.
Edson, Howard Austin	1875-	Edson
Egeland, John		Egel.
Ehrenberg, Christian Gottfried . . .	1795-1876	Ehr.
Eidam, Michael Emil Edward	1845-1901	Eidam
Elliott, Charlotte	1883-	Elliott
Elliott, Jessie Sproat	see Bayliss-Elliott	
Elliott, John Asbury	1887-1923	J. A. Elliott
Ellis, Job Bicknell	1829-1905	Ell.
Ellrodt, Theodor Christian	1767-1804	Ellr.
Emmons, Chester Wilson	1900-	Emmons
Endlicher, Stephan Frederick Ladislaus	1804-1849	Endl.
Engelmann, George	1809-1884	Engelm.
Engler, Heinrich Gustav Adolf	1844-1930	Engl.
Englerth, George Henry	1907-	Englerth
English, William Harley	1911-	English
Enlows, Ella Morgan (Austin)	1884-	Enlows
Eriksson, Jakob	1848-1931	Eriks.
Essary, Samuel Henry	1870-1935	Essary
Evans, Alexander William	1868-	Evans
Evans, Arlyn Wayne		A. W. Evans
Evans, Iltyd Buller Pole	1879-	P. Evans
Everhart, Benjamin Matlack	1818-1904	Ev.
Ezekiel, Walter Naphtali	1901-	Ezekiel
Fairman, Charles Edward	1856-1934	Fairm.
Farlow, William Gibson	1844-1919	Farl.
Farneti, Rodolfo	1859-1919	Farneti
Faull, Joseph Horace	1870-	Faull
Fautrey, F.		Fautr.
Fawcett, Howard Samuel	1877-	Fawc.
Fayod, Victor	1860-1900	Fayod
Feltgen, Johann	1833-1904	Feltg.
Fenner, Ellen Aline (Kempton) . . .	1889-	Fenner
Ferdinandsen, Carl Christian Frederick	1879-	Ferd.
Ferraris, Teodoro		Ferr.
Ficinus, Heinrich David August . . .	1782-1857	Ficinus
Field, Ethel Content		Field
Filip'ev, Ivan Nikolaevich	1889-1937(?)	Filip.
Fingerhuth, Carl Anton		Fingerh.
Fink, Bruce	1861-1927	Fink
Fisch, Carl	1859-	Fisch
Fischer, Alfred	1858-1913	Alf. Fisch.

Fischer, Eduard	1861-1939	E. Fisch.
Fischer, George William	1906-	G. W. Fisch.
Fischer, Johann Carl	1804-1885	J. C. Fisch.
Fischer von Waldheim, Aleksandr Aleksandrovich	1839-1920	Alek. Fisch.
Fitzpatrick, Harry Morton	1886-	Fitz.
Fleischok,		Fleischok
Foëx, Étienne Edmond	1876-	Foëx
Foister, Charles Edward		Foister
Foster, Arthur Crawford	1893-	Foster
Frank, Albert Bernhard	1839-1900	Frank
Fraser, Lilian Ross		L. Fraser
Fraser, William Pollock	1867-1943	Fraser
Freeman, Edward Monroe	1875-	Freeman
Fresenius, Johann Baptist Georg Wolfgang	1808-1866	Fres.
Fries, Elias Magnus	1794-1878	Fr.
Fries, Klas Robert Elias	1876-	R. E. Fr.
Fromme, Fred Denton	1886-	Fromme
Fron, Georges	1870-	Fron
Frost, Charles Christopher	1805-1880	Frost
Fuckel, Karl Wilhelm Gottlieb Leopold	1821-1876	Fckl.
Fukushi, Teikichi		Fukushi
Funck, Heinrich Christian	1771-1839	Funck
Gabotto, Luigi		Gab.
Gachet, Antoine Hippolyte	1798-1842	Gachet
Gaertner, Joseph	1732-1791	Gaertn.
Gaillard, Albert	1858-1903	Gaill.
Galloway, Beverly Thomas	1863-1938	Gall.
Galzin, Amédée	1853-1925	Galz.
Gandara, Guillermo	1879-1939	Gandara
Gardner, Max William	1890-	Gardner
Garman, Phillip	1891-	Garman
Garovaglio, Santo	1805-1882	Garov.
Garrett, Albert Osbun	1870-	Garrett
Gaudichaud-Beaupré, Charles	1789-1854	Gaud.
Gäumann, Ernst Albert	1893-	Gäum.
Gay, Claude	1800-1873	Gay
Georgevitch, Pierre	(see Dordevic)	Dordevic
Gerard, William Ruggles	1841-1914	Gerard
Gibson, William Hamilton	1850-1896	Gibson
Giddings, Nahum James	1883-	Gidd.
Giesenhagen, Karl Friedrich Georg	1860-1928	Gies.
Gilkey, Helen Margaret	1886-	Gilkey
Gill, Lake Shore	1900-	Gill
Gillet, Claude Casimir	1806-1896	Gill.
Gillot, François Xavier	1842-1910	Gillot
Gilman, Joseph Charles	1890-	Gilman
Glick, P. A.		Glick
Gloyer, Walter Oscar	1886-	Gloyer
Gmelin, Johann Friedrich	1748-1804	Gmel.

Gobi, Christoph (Kristofer) Jakosolewitsch	1847-1925	Gobi
Godfrey, George Harold	1888-	Godfrey
Godkin, James	1891-	Godkin
Goidanich, Gabriel		Goid.
Gonnermann, Wilhelm	1806-1884	Gonn.
González Fragoso, Romualdo	1862-1928	Gonz.Frag.
Goodey, Tom		Goodey
Goodding, Leslie Newton	1880-	Goodding
Gorianinov, Pavel Fedorovich (Horaninow)	1796-1865	Gor.
Graff, Paul Weidemeyer	1880-	Graff
Graves, Arthur Harmont	1879-	Graves
Gray, Samuel Frederick	1766-1828	S. F. Gray
Graziani, Antoine	(fl.1890-1910)	Graz.
Greef, Richard	1829-1892	Greef
Greene, Edward Lee	1842-1915	Greene
Gregory, Charles Truman	1887-	Greg.
Greville, Robert Kaye	1794-1866	Grev.
Griffin, Frederick Llewellin		Griffin
Griffiths, David	1867-1935	Griff.
Griffon, Edouard	1869-1912	Griffon
Grodsinsky, Leon	1908-	Grodsinsky
Grognot, Camille	1792-1869	Grog.
Grønlund, Carl Christian Howitz	1825-1901	Grønlund
Grossenbacher, John Gasser	1875-	Gross.
Grossman, Helene		Grossmann
Grout, Abel Joel	1867-	Grout
Grove, William Bywater	1848-1938	Grove
Groves, James Walton	1906-	Groves
Guba, Emil Frederick	1897-	Guba
Guepin, Jean Pierre	1779-1858	Guep.
Güssow, Hans Theodor	1879-	Güssow
Guterman, Carl Edward Frederick	1903-	Guterman
Haasis, Ferdinand Wead	1889-	F. W. Haasis
Hagborg, W. A. F.		Hagb.
Hagelstein, Robert	1870-	Hagels.
Hagemann, W.		Hagem.
Hahn, Glen Gardner	1889-	Hahn
Hahn, Gotthold		G. Hahn
Hall, Constant Johann Jakob van	1875-	v. Hall
Hall, John Galentine	1870-	J. G. Hall
Haller, Victor Albrecht von	1708-1777	Haller
Halsted, Byron David	1852-1918	Halst.
Hansen, Hans Nicholas	1891-	Hansen
Hanzawa, Jun		Hanz.
Hara, Kanesuke		Hara
Hard, Miron Elisha	1849-1914	Hard
Hardison, John Robert		Hardison
Hariot, Paul Auguste	1854-1917	Hariot
Harkness, Harvey Wilson	1821-1901	Harkn.

Harris, Hubert Andrew	1909-	Harris
Harrison, Arthur Leslie	1905-	A. L. Harrison
Harrison, Travis Henry John	1901-	T. H. Harrison
Harter, Leonard Lee	1875-	Harter
Hartig, Heinrich Julius Adolph Robert	1839-1901	Hartig
Hartley, Carl Pierce	1887-	Hartley
Harz, Carl Otto	1842-1906	Harz
Harzer, Carl August Friederich	1784-1846	Harzer
Hasse, Clara H.	1880- ?	C. Hasse
Hasse, Hermann Edward	1836-1915	Hasse
Hazslinszky, Friederich August	1818-1896	Hazsl.
Heald, Frederick DeForest	1872-	Heald
Hedgcock, George Grant	1869-	Hedgc.
Hedges, Florence	1878-	Hedges
Hedwig, Romanes Adolf	1772-1806	Hedw. f.
Heim, Roger		Heim
Hemmi, Takowo		Hemmi
Henning, Ernst Johan	1857-1929	E. Henn.
Hennings, Paul Christoph	1841-1908	P. Henn.
Hepting, George Henry	1907-	Hepting
Herbst, William	1833-1907	Herbst
Herpell, Gustav Jacob	1828-1912	Herp.
Herzberg, Paul	1865-	Herzb.
Hesler, Lexemuel Ray	1888-	Hesler
Hesse, Rudolf	1844-1912	Hesse
Hickman, C. J.		Hickman
Higgins, Bascombe Britt	1887-	Higgins
Hildebrand, Alexander Anderson	1896-	A. A. Hildeb.
Hildebrand, Earl Martin	1902-	E. M. Hildeb.
Hildebrand, Friedrich Hermann Gustav	1835-1915	F. Hildeb.
Hilgard, Theodore Charles	1828-1875	Hilg.
Hillegas, Arthur Burdette	1907-	Hillegas
Hipólito, O.		Hipólito
Hiratsuka, Naohide		Hirat.
Hiroe (Matsuura), Isamu		Hiroe
Hirschhorn, Elisa		Hirsch.
Hockey, John Frederick	1895-	Hockey
Hodson, Elmer Reed	1875-	Hodson
Hoehnel, Franz Xavier Rudolf von	1852-1920	Hoehn.
Hoerner, Godfrey Richard	1893-	Hoerner
Hoffman, George Franz	1760-1826	Hoffm.
Hoffman, Heinrich Carl Hermann	1819-1891	H. Hoffm.
Hohnk, Johann Willy Georg	1899-	Hohnk
Holl, C. Friedrich		Holl
Holland, Dorothy Fitzgerald	1897-	Holland
Hollick, Charles Arthur	1857-1933	Hollick
Hollós, László	1859-1940	Hollós
Holmes, Francis Oliver	1899-	Holmes
Holway, Edward Willet Dorland	1853-1923	Holw.

Homma, Yasu		Homma
Honey, Edwin Earle	1891-	Honey
Hooker, William Jackson	1785-1865	Hook.
Hopkins, Edwin Fraser	1891-	Hopkins
Horaninow, Paul Fedorowitsch	see Gorianinov	Gor.
Hori, Shôtarô		Hori
Horne, Arthur Samuel		A. S. Horne
Horne, William Titus	1872-1944	Horne
Hornemann, Jens Wilken	1770-1841	Horn.
Horsfall, James Gordon	1905-	Horsfall
Hotson, Hugh Howison	1916-	H. H. Hotson
Hotson, John Williams	1870-	Hotson
House, Homer Dolliver	1878-	House
Howe, Elliott Calvin	1823-1899	Howe
Howe, Marshall Avery	1867-1936	M. A. Howe
Howell, Thomas	1842-1912	Howell
Huber, Glenn Anthony	1899-	Huber
Hubert, Ernest Everett	1887-	Hubert
Hudson, William	1703-1793	Huds.
Hull, Kathleen L.		Hull
Hume, Hardrada Harold	1875-	Hume
Humphrey, Clarence John	1882-	C. J. Humph.
Humphrey, James Ellis	1861-1897	Humph.
Hunt, Nicholas Rex	1885-	Hunt
Hunter, Lydia Lillian Mary	1892-	Hunter
Hussey, A. M.		Hussey
Hutchins, Lee Milo	1888-	Hutchins
Hutchinson, Wesley Gillis	1903-	Hutch.
Imai, Sanshi		Imai
Inzenga, Giuseppe	1815-1887	Inz.
Issatchenko, Boris Laurentiewicz	1871-	Issat.
Ito, Seiya	1883-	Ito
Jaap, Otto	1864-1922	Jaap
Jackson, Herbert Spencer	1883-	Jacks.
Jacky, Ernst	1874-	Jacky
Jacquin, Nicholas Joseph von	1727-1817	Jacq.
Jaczewski, Arthur Louis de	1863-1932	Jacz.
Jagger, Ivan Claude	1889-1939	Jagger
James, Joseph Francis	1857-1897	James
Jamieson, Clara Octavia	1879-	Jamieson
Janczewski, Edouard	1846-1918	Jancz.
Jauch, Clotilde		Jauch
Jeffers, Walter Fulton	1915-	Jeffers
Jehle, Robert Andrew	1882-	Jehle
Jenkins, Anna Eliza	1886-	Jenkins
Jenkins, Wilbert Armonde	1905-	W. A. Jenkins
Jennings, Herbert Spencer	1868-	Jennings
Jensen, Christian Nephi	1880-	C. N. Jens.
Jensen, Hans Laurits	1898-	H. L. Jens.
Jensen, Jens Ludwig	1836-1904	Jens.

Johanson, Carl Johan	1858-1888	Johans.
Johnson, Aaron Guy	1880-	A. G. Johnson
Johnson, Asa Emery	1825-1906	A. E. Johnson
Johnson, Edward Marshall	1896-	E. M. Johnson
Johnson, Howard Wilfred	1901-	H. W. Johnson
Johnson, James	1886-	J. Johnson
Johnson, Thomas	1863-	T. Johnson
Johnson, Thorvaldur	1897-	Th. Johnson
Johnston, George	1797-1885	G. Johnston
Johnston, John Robert	1880-	J. R. Johnston
Jones, Fred Ruel	1884-	F. R. Jones
Jones, Leon Killy	1895-	L. K. Jones
Jones, Lewis Ralph	1864-	L. R. Jones
Jones, Marcus Eugene	1852-1934	M. E. Jones
Jones, Philip Malory	1892-	P. M. Jones
Jordi, Ernst	1877-1933	Jordi
Jørgensen, Carl Adolph	1899-	Jørg.
Jørstad, Ivar	1887-	Jørst.
Josserand, Marcel	1900-	Josserand
Juel, Hans Oscar	1863-1931	Juel
Junghuhn, Franz Wilhelm	1809-1864	Jungh.
Kabát, Josef Emanuel	1849-1925	Kab.
Kalchbrenner, Károly	1807-1886	Kalchb.
Kallenbach, Franz Joseph	1893-	Kallen.
Kanouse, Bessie Bernice	1889-	Kanouse
Karakulin, Boris P.		Karak.
Karling, John Sidney	1898-	Karling
Karsten, Peter Adolf	1834-1917	Karst.
Kasai, Mikio		Kasai
Kauffman, Calvin Henry	1869-1931	Kauff.
Kawai, Katsumi		Kawai
Kawakami, Takiya		Kawakami
Kawamura, Eikichi		E. Kawamura
Kawamura, Seiichi		S. Kawamura
Keissler, Karl von	1872-	Keissl.
Kellerman, William Ashbrook	1850-1908	Kell.
Kelsey, Francis Duncan	1849-1905	Kelsey
Kendrick, James Blair	1893-	Kendr.
Kern, Frank Dunn	1883-	Kern
Khazanoff, Amram	1890-	Khaz.
Kheswalla, Kavasji Framaji		Kheswalla
Kickx, Jean	1803-1836	Kickx
Kidd, Mrs. Franklin (Mary Nest Owen)		Kidd
Kienholz, Jesse Reuben	1904-	Kienh.
Killian, Charles	1887-	Killian
King, Charlotte Maria	1864-1937	King
Kingma, F. H. see Van Beyma thoe Kingma		Kingma
Kirby, Robert Stearns	1892-	Kirby
Kirchner, Emil Otto Oskar	1851-1925	Kirch.
Kirchner, Leopold Anton	? -1879	L. Kirch.

Kirschstein, Wilhelm	1863-	Kirsch.
Klebahn, Heinrich	1859-1942	Kleb.
Klotz, Leo Joseph	1895-	Klotz
Klotzsch, Johann Friedrich	1805-1860	Klotzsch
Kobel, Fritz	1896-	Kobel
Koernicke, Friedrich August	1828-1908	Koern.
Komarov, Vladimir Leont'evich (Leontejevic)	1869-1939	Kom.
Koorders, Sijfert Hendrick	1863-1919	Koord.
Kotila, John Ernest	1893-	Kotila
Kotte, Walter	1893-	Kotte
Kotthoff, Peter	1883-	Kotth.
Krieger, Karl Wilhelm	1848-1921	Krieger
Krieger, Louis Charles Christopher	1873-1940	L.C.C. Krieger
Krombholz, Julius Vincenz von	1782-1843	Kromb.
Krueger, Wilhelm	1857-	Krueger
Kuehn, Julius Gotthelf	1825-1910	Kuehn
Kunkel, Louis Otto	1884-	Kunkel
Kunth, Karl Sigismund	1788-1850	Kunth
Kuntze, Karl Ernst Otto	1843-1907	Kuntze
Kunze, Gustav	1793-1851	G. Kunze
Kunze, Johannes	? -1881	J. Kunze
Kunze, O.		O. Kunze
Kuribayashi, Kazue		Kuribay.
Kusano, Shunsuke		Kus.
Labrousse, Francis Jean		Labr.
Lacroix, Louis Sosmène Veyron, l'Abbé	1818-1864	Lacroix
Lafferty, H. A.		Laff.
Lagerberg, Torsten	1882-	Lager.
Lagerheim, Nils Gustavo von	1860-1926	Lagh.
Lamarck, Jean Baptiste Antoine Pierre Monnet de	1774-1829	Lam.
Lambert, C. R.		C. R. Lambert
Lambert, Edmund Bryan	1897-	E. B. Lambert
Lambert, François	1859-1940	F. Lambert
Lambotte, J. B. Ernest	1832-1905	Lambotte
Lamkey, Ernest Michael Rudolph	1890-	Lamkey
Lange, Jakob Emanuel	1864-	J. Lange
Lange, Johan Martin Christian	1818-1898	Lange
Langlois, Auguste Barthélemy	1832-1900	Langl.
Lanzi, Matteo	1824-1908	Lanzi
Lasch, Wilhelm Gottfried	1787-1863	Lasch
Lasnier, E.		Lasnier
Laubert, Karl Richard	1870-	Laub.
Lea, Thomas Gibson	1785-1844	Lea
Leach, Julian Gilbert	1894-	Leach
Leach, Robert	1893-	R. Leach
Lebedeva, Lydia Alexsandrovna		Lebed.
Lebert, Hermann	1813-1878	Leb.
Ledingham, George Aleck	1903-	Led.

Lee, Henry Atherton	1894-	Lee
Lefebvre, Camille Leon	1905-	Lefébvre
Lehman, Samuel George	1887-	Lehman
LeMonnier, Alexandre Alexis George	1843- ?	G. LeMon.
LeMonnier, Louis Guillaume	1717-1799	LeMon.
Lendner, Alfred	1873-	Lendn.
Lenz, Harold Othmar	1799-1870	Lenz
Lenz, Lee Wayne	1915-	L. Lenz
Leonian, Leon Hatchig	1888-	Leonian
Letov, Aleksandr Sergeevich (Letow)	1904-	Letov
Leuba, F.		Leuba
Léveillé, Joseph Henri	1796-1870	Lév.
Lewis, Isaac McKinney	1878-1943	I. M. Lewis
Leysser, Friedrich Wilhelm von	1731-1815	Leyss.
Libert, Marie Anne	1782-1865	Lib.
Liboschitz, Joseph	17 -1824	Liboschitz
Lieneman, Catharine	1899-	Lieneman
Limber, Donald Philips	1894-	Limber
Lind, Jens Vilhelm August	1874-1939	Lind
Lindau, Gustav	1866-1923	Lindau
Lindblad, Matts Adolf	1821(?)-1899	Lindbl.
Linder, David Hunt	1899-	Linder
Lindgren, Sven Johan	1810-1849	Lindgren
Lindquist, Juan Carlos		Lindquist
Lindroth, Johan Ivar (Later Liro)	1872-	Lindr.=Liro
Linford, Maurice Blood	1901-	Linford
Linhart, György	1844-1925	Linh.
Link, George Konrad Karl	1888-	G. K. K. Lk.
Link, Johann Heinrich Friedrich	1767-1851	Lk.
Linn, Manson Bruce	1908-	Linn
Linné, Carl von (Linnaeus)	1707-1778	L.
Liro, Johan Ivar (see also Lindroth)	1872-	Liro
Litschauer, Viktor	1879-1939	Litsch.
Lloyd, Curtis Gates	1859-1926	Lloyd
Lobik, Alexis Iulianovich		Lob.
Lohman, Marion Lee	1903-	Lohman
Lohwag, Heinrich	1884-	Lohw.
Long, William Henry	1867-	Long
Longyear, Burton Crange	1868-	Longyear
Lönnegren, August Valfrid	1842-1904	Lönnegren
Loos, Walter		Loos
Lorentz, Paul Günther	1835-1881	Lorentz
Lorenz, Rolland Carl	1904-	Lorenz
Lorinser, Friedrich Wilhelm	1817-1895	Lorinser
Lovejoy, Ruth Ellen Harrison	1882-	Lovejoy
Lucand, Jean Louis	1821-1896	Lucand
Ludwig, Clinton Albert	1886-1941	C. A. Ludwig
Ludwig, Friedrich	1851-1918	F. Ludwig
Lüdi, Werner	1888-	Lüdi
Luijk, Abraham van, see van Luijk	1874-	Luijk

Luttrell, Everett Stanley	1916-	Luttrell
Lynge, Bernt	1884-1942	Lynge
Lyon, Harold Lloyd	1879-	Lyon
Macbride, Thomas Huston	1848-1934	Macbr.
Machacek, John Emil	1902-	Machacek
MacKay, Alexander Howard	1848-1929	MacKay
Mackie, William Wylie	1873-	Mackie
Macoun, James Melville	1862-1920	Macoun
Maffei, Siro Luigi	1879-	Maf.
Magnaghi, Angelo		Magnaghi
Magnus, Paul Wilhelm	1844-1914	Magn.
Magnusson, Adolf Hugo	1885-	Magnusson
Magrou, Joseph	1883-	Magrou
Mains, Edwin Butterworth	1890-	Mains
Maire, Louis		L. Maire
Maire, René Charles Joseph Ernest	1878-	Maire
Malbranche, Alexandre Françoise .	1818-1888	Malbr.
Mangin, Louis Alexandre	1852-1937	Mangin
Manns, Thomas Franklin	1876-	Manns
Marchal, Élie	1839-1923	El. Marchal
Marchal, Émile Julius	1871-	Em. Marchal
Marchand, Louis	1807-1843	Marchand
Marchionatto, Juan B.		Marchionatto
Marignoni, G. B.		Marig.
Markova, Marie Federovna	1901-	Markova
Marshall, Nina Lovering	1861-	Marshall
Martin, George	1827(?)-1886	G. Martin
Martin, George Hamilton	1887-	G. H. Martin
Martin, George Willard	1886-	G. W. Martin
Martin, Weston Joseph	1917-	W. J. Martin
Martindale, Isaac Comly	1842-1893	Martindale
Martius, Heinrich von	1781-1831	H. Mart.
Martius, Karl Friedrich Philipp von	1794-1868	Mart.
Mason, Edmund William		Mason
Massalongo, Abramo Barthomeo . . .	1824-1860	A. Massal.
Massalongo, Caro Benigno	1852-1925	Massal.
Massee, George Edward	1850-1917	Mass.
Massey, Louis Melville	1889-	Massey
Matruchot, Louis	1863-1921	Matr.
Matsumoto, Hiroyoshi		H. Matsu.
Matsumoto, Takashi		T. Matsu.
Mattirolo, Oreste	1856-	Matt.
Mattuschka, Heinrich Gottfried . .	1734-1779	Mattusch.
Matz, Julius	1886-	Matz
Maublanc, André	1880-	Maub.
May, Curtis	1898-	May
Mayor, Eugene	1877-	Mayor
Mayr, Heinrich	1856-1911	Mayr
McAlpine, Daniel	1848-1932	McAlp.
McClain, R. L.		McClain
McClintock, James Albertine . . .	1889-	McClintock

McColloch, Lacy Porter	1907-	McColloch
McCulloch, Lucia	1873-	McCull.
McDougall, Walter Bryon	1883-	McDougall
McIlvaine, Charles	1840-1909	McIlv.
McKinney, Harold Hall	1889-	McK.
McWhorter, Frank Paden	1896-	McWhorter
Medlar, Edgar Mathias	1887-	Medlar
Mehrlich, Ferdinand Paul	1905-	Mehrlich
Meier, Fred Campbell	1893-1938	Meier
Meinecke, Emilio Pepe Michael	1869-	Meinecke
Melhus, Irving E.	1881-	Melhus
Melin, Elias	1889-	Melin
Mendoza, Jose Miguel		Mendoza
Mérat, François Victor	1780-1851	Mérat
Metcalf, Haven	1875-1940	Metcalf
Meurs, Abraham	1904-	Meurs
Meyen, Franz Julius Ferdinand	1804-1840	Meyen
Meyer, George Friedrich Wilhelm	1732-1856	Meyer
Michaux, André	1746-1802	Michx.
Micheli, Pier' Antonio	1679-1737	Micheli
Middleton, John Tylor	1912-	Middleton
Migl,		Migl
Migula, Walter	1863-1938	Mig.
Milbrath, John A.	1909-	Milbrath
Miles, Lee Ellis	1890-1941	Miles
Milesi, Marco		Milesi
Millard, Wilfrid Arthur	1880-	Millard
Miller, Julian Howell	1890-	J. H. Miller
Miller, Lee Wallace	1904-	L. W. Miller
Miller, Paul William	1901-	P. W. Miller
Millspaugh, Charles Frederick	1854-1923	Millsp.
Minden, Max D. von	1871-	Mind.
Miquel, Friedrich Anton Wilhelm	1811-1871	Miq.
Mirande, Marcel	1864-1930	Mirande
Mitra, Manoranjan	1895-1942	Mitra
Miura, Michiya		Miura
Mix, Arthur Jackson	1888-	Mix
Miyabe, Kingo	1860-	Miy.
Miyake, Tsutome		Miyake
Moeller, Friedrich Alfred Gustáv Jobst (Möller)	1860-1922	Moell.
Moesz, Gustav von	1873-	Moesz
Molkenboer, Julian Hendrick	1816-1854	Molk.
Molliard, Marin	1866-	Moll.
Montagne, Jean Pierre François Camille	1784-1866	Mont.
Moore, Justin Payson	1841-1923	J. P. Moore
Moore, William Dewey	1897-	W. D. Moore
Morgan, Andrew Price	1836-1907	Morg.
Morini, Fausto		Mor.

Morse, Elizabeth Eaton	1864-	Morse
Mougeot, Jean Baptiste	1776-1858	Moug.
Mouton, V.		Mout.
Mueller, C.		C. Muell.
Mueller, Ferdinand Jacob Heinrich von	1825-1896	F. Muell.
Mueller, Julius Heinrich Hans	1855-1912	J. Muell.
Mueller, Otto Fridric	1730-1784	O. F. Muell.
Mueller, Wilhelm	1884-	W. Muell.
Muhlenberg, Gotthilf Henry Ernest	1753-1815	Muhl.
Muller, Albert Stanley	1901-	Muller
Münch, Ernst	1876-	Münch
Mundkur, Bhalchendra Bhavanishankar	1896-	Mund.
Munn, Mancel Thornton	1887-	Munn
Murray, Thomas Jefferson	1891-	Murray
Murrill, William Alphonso	1869-	Murr.
Nagatomo, Isamu		Nagatomo
Nakano, Kakugorô		Nakano
Nannfeldt, Johan Axel		Nannf.
Nannizzi, Arturo	1877-	Nann.
Nattrass, Roland Marshall	1895-	Nattrass
Naumov, Nikolai Aleksandrovich	1888-	Naum.
Naumann, Arno	1862-1932	Naumann
Nawaschin, Sergiei Gavrilovich (Navashin)	1857-1930	Nawaschin
Nees von Esenbeck, Christian Gottfried Daniel	1776-1858	Nees
Nees von Esenbeck, Theodor Friedrich Ludwig	1787-1837	T. Nees
Neger, Franz Wilhelm	1868-1923	Neger
Neil, Cornelis Bernardus	1897-	Neil
Nelson, Aven	1859-	A. Nels.
Nestler, Christian Gottfried	1778-1832	Nestl.
Neuman, Julius John		Neuman
Newton, George Albert	1879-	Newton
Nielsen, Peter	1829-1897	Niels.
Niessl von Mayendorf, Gustav	1839-1919	Niessl
Nishida, Toji	1874-1927	Nish.
Nishikado, Yosikazu		Nishikado
Nitschke, Theodor	1834-1883	Nits.
Noack, Fritz		Noack
Norton, John Bitting Smith	1872-	Norton
Notaris, Guiseppe de	1805-1877	De N.
Noulet, Jean Baptista	1802-1890	Noulet
Nowakowski, Leon		Nowak.
Nowell, William	1880-	Nowell
Nuttall, Laurence William	1857-1933	L. W. Nutt.
Nuttall, Thomas	1786-1859	Nutt.
Nylander, Frederick	1820-1880	F. Nyl.
Nylander, William	1822-1899	Nyl.

Oeder, Georg Christian	1728-1791	Oed.
O'Gara, Patrick Joseph	1872-1927	O'Cara
Okabe, Norio		Okabe
Olive, Edgar William	1870-	Olive
Onuma, Fusaji		Onuma
Opatowski, Wilhelm	1810-1838	Opat.
Opiz, Philipp Maximilian	1787-1858	Opiz
Orishimo, Yoshinobu	1881-	Orish.
Orr, Leslie Wayne	1902-	Orr
Ørsted, Anders Sandoe	1816-1872	Ørsted
Orton, Clayton Roberts	1885-	Orton
Osner, George Adin	1888-	Osner
Osterwalder, Adolf	1872-	Osterw.
Otth, Heinrich Gustav	1806-1874	Otth
Otto, Johann Gottfried	1761-18 ?	Otto
Oudemans, Cornelis Antoon Jan Abraham	1825-1906	Oud.
Overholts, Lee Oras	1890-	Overh.
Owen, Mary Nest (Mrs. Franklin Kidd)		Kidd
Paine, Frederick Sylvanus	1883-	F. S. Paine
Paine, Sydney Gross	1881(?)-1937	Paine
Palisot de Beauvois, Ambroise Marie François Joseph	1755-1820	Beauv.
Palliser, Helen Letitia		Palliser
Palm, Björn Torwald	1887-	Palm
Palmer, Julius Auboineau	1840-1899	Palmer
Pammel, Louis Hermann	1862-1931	Pam.
Pape, Heinrich	1891-	Pape
Parisi, Rosa		Parisi
Parker, Charles Stewart	1882-	Parker
Parker, John Bernard	1870-	J. B. Parker
Pascher, Adolph A.	1881-	Pascher
Passerini, Giovanni	1816-1893	Pass.
Patouillard, Narcisse Théophile	1854-1926	Pat.
Patterson, Flora Wambaugh	1847-1928	Patterson
Paul, Hermann	1876-	H. Paul
Paulet, Jean Jacques	1740-1826	Paul.
Pavarino, Giovanni Luigi	1867-1937	Pav.
Paxton, Glen Ernest	1896-	Paxton
Pazschke, Franz Otto	1843-1922	Paz.
Peck, Charles Horton	1833-1917	Pk.
Peglion, Vittorio	1873-	Pegl.
Penzig, Otto Albert Julius	1856-1929	Penz.
Percival, John	1863-	Perc.
Person, Lee Homer	1904-	Person
Persoon, Christian Hendrik	1762-1836	Pers.
Petch, Thomas		Petch
Peterson, Alvah	1888-	Peterson
Pethybridge, George Herbert	1871-	Pethyb.
Petrak, Franz	1886-	Petr.

Petri, Lionello		Petri
Peyl, Josef		Peyl
Peyronel, Beniamino	1890-	Peyronel
Phillips, William	1822-1905	Phill.
Phoebus, Philipp	1804-1880	Phoebus
Picbauer, Richard	1886-	Picb.
Piccone, Antonio	1844-1901	Piccone
Piemeisel, Frank Joseph	1891-1925	Piemeisel
Pierce, Newton Barris	1856-1916	Pierce
Pilát, Albert	1903-	Pilát
Piper, Charles Vancouver	1867-1926	Piper
Pirone, Pascal Pompey	1907-	Pirone
Plakidas, Antonios George	1895-	Plakidas
Ploettner, Traugott	1853-1923	Ploettn.
Plowright, Charles Bagge	1849-1910	Plowr.
Plunkett, Orda Allen	1897-	Plunkett
Poetsch, Ignaz Sigismund	1823-1884	Poetsch
Poiret, Jean Louis Marie	1755-1834	Poir.
Poiteau, Antoine	1766-1854	Poit.
Pole Evans, I. B.	see Evans, Pole	P. Evans
Pollacci, Gino		Poll.
Porte, William Solomon	1891-	Porte
Posey, Gilbert Bradley	1891-	Posey
Potebnia, Andrej A.	1870-1919	Poteb.
Potter, Alden Archibald	1884-	A. A. Potter
Potter, Michael Coresse	1858-	M. C. Potter
Pound, Roscoe	1870-	Pound
Povah, Alfred Hubert William	1889-	Povah
Prantl, Karl Anton Eugen	1849-1893	Prantl
Presl, Karl Boriwag	1794-1852	Presl
Presley, John Thomas	1906-	Presley
Preuss, C. G. Traugott	? -1855	Preuss
Prilleaux, Edouard Ernest	1829-1915	Prill.
Pringle, Cyrus Guernsey	1838-1911	Pringle
Pringsheim, Nathanael	1823-1894	Pringsh.
Pritchard, Frederick John	1874-1931	Pritchard
Pugsley, A. T.		Pugsley
Pursh, Frederick	1774-1820	Pursh
Puttemans, Arsène	1873-1937	Putt.
Quélet, Lucien	1832-1899	Quél.
Rabenhorst, Gottlieb Ludwig	1806-1881	Rab.
Raciborski, Maryan	1863-1917	Rac.
Rafinesque-Schmaltz, Constantine Samuel	1783-1840	Raf.
Ramsbottom, John	1885-	Ramsb.
Ramsey, Glen Blaine	1889-	Ramsey
Rand, Frederick Vernon	1883-	Rand
Rands, Robert Delafield	1890-	Rands
Rangel, Eugenio		Rangel
Rankin, William Howard	1888-	Rankin

Ranojević, Nikola		Ranoj.
Raper, Kenneth Bryan	1908-	Raper
Rathay, Emerich	1845-1900	Rathay
Rathschlag, Heinz.		Rathschl.
Ravaz, Louis Etienne	1863-1937	Ravaz
Ravenel, Henry William	1814-1887	Rav.
Ray, William Winfield	1909-	Ray
Rayss, Tscharna		Rayss
Rea, Paul Marshall	1878-	Rea
Reade, John Moore	1877-1937	Reade
Rebentisch, Johann Friedrich	1772-1810	Reb.
Reddick, Donald	1883-	Reddick
Reddy, Charles Steven	1887-	Reddy
Reed, George Matthew	1878-	G. M. Reed
Reed, Howard Sprague	1876-	H. S. Reed
Reess, Max Ferdinand Friedrich	1845-1901	Reess
Reeves, Enoch Lloyd	1901-	Reeves
Regel, Edward August von	1815-1892	Regel
Rehm, Heinrich	1829-1916	Rehm
Reichardt, Heinrich Wilhelm	1835-1885	Reichardt
Reinke, Johannes	1849-1931	Reinke
Reinke, Johannes	1829-1916	J. Reinke
Reinking, Otto August	1890-	Reinking
Relhan, Richard	1754-1823	Relh.
Remsberg, Ruth Elizabeth	1906-	Remsberg
Requien, Esprit	1788-1851	Requien
Rhoads, Arthur Stevens	1893-	Rhoads
Richon, Charles Edouard	1820-1893	Richon
Rick, Johann	1869-	Rick
Ricken, Adalbert	1851-1921	Ricken
Ricker, Percy Leroy	1878-	Ricker
Riess, H.		Riess
Riker, Albert Joyce	1894-	Riker
Ritzema Bos, Jan	1850-1928	Ritz.-Bos
Rivera Campanile, Giulia		Campanile
Rivolta, Sebastiano	(fl. 1872-1887)	Rivolta
Roark, Eugene Washburn	1894-1918	Roark
Robak, Hakan		Robak
Roberge, Michael Robert	? -1864	Rob.
Roberts, John William	1882-	Roberts
Robinson, Benjamin Lincoln	1864-1935	Robinson
Röhling, Johan Christoph	1757-1813	Röhling
Rogers, Donald Phillip	1908-	Rogers
Rohde, Theo.		Rohde
Roldan, Emiliano F.		Roldan
Rolland, León Louis	1841-1912	Rolland
Romell, Lars Gunnar	1854-1927	Rom.
Roques, Joseph	1792-1850	Roques
Rose, Dean Humboldt	1878-	Rose
Rosella, Etienne		Rosella
Rosen, Harry Robert	1889-	Rosen

Rosenbaum, Joseph	1887-1925	Rosenbaum
Rostafinski, Josef	1850-1928	Rost.
Rostkovius, Friedrich Wilhelm Gottlieb	1770-1848	Rostk.
Rostowzew (Rostovtzev), Semen (Simon) Ivanovich	? -1916	Rostow.
Rostrup, Frederick Georg Emil	1831-1907	Rostr.
Roth, Albrecht Wilhelm	1757-1834	Roth
Rothers, Boris	1890-	Rothers
Roumeguère, Casimir	1830-1892	Roum.
Rousseau, Mariette Hannon	? -1926	Rouss.
Roussel, Henri François Anne de	1748-1812	Roussel
Routien, John Broderick	1913-	Routien
Roze, Ernesto	1833-1900	Roze
Rudolph, Bert Alexander	1889-	Rudolph
Rudolphi, Friedrich Karl Ludwig	1801-1849	Rudolphi
Rudolphi, Karl Asmunt	1771-1832	K. Rudolphi
Ruehle, George Dewey	1898-	Ruehle
Ruhland, Eugen Otto Willy	1878-	Ruhl.
Rumbold, Caroline Thomas	1877-	Rumbold
Ryan, Ruth Winifred (Sister Mary Hilaire)	1899-	Ryan
Rydberg, Per Axel	1860-1931	Rydb.
Saccardo, Domenico	1872-	D. Sacc.
Saccardo, Pier Andrea	1845-1920	Sacc.
Sackett, Walter George	1880-	Sackett
Sadebeck, Richard Emil Benjamin	1839-1905	Sadeb.
Saito, Hidesaku		H. Saito
Saito, Kendo		K. Saito
Salmon, Ernest Stanley		Salm.
Sanford, Guthrie Brown	1890-	Sanford
Sartoris, George Bartholomew	1896-	Sartoris
Sartory, Auguste		A. Sartory
Sartory, René		R. Sartory
Saunders, William Wilson	1809-1879	Saunders
Sauvageau, Camille	1861-1936	Sauv.
Savastano, Luigi Salvatore	1853-	Sav.
Săvulescu, Trajan		Săvu.
Sawada, Kaneyoshi		Saw.
Scalia, Giuseppe		Scalia
Schaeffer, Jacob Christian	1718-1790	Schaeff.
Schaffnit, Johannes Ernst Christian Otto	1878-	Schaff.
Schellenberg, Hans Conrad	1872-1923	Schellenb.
Schenk, Bernhard	1833-1893	Schenk
Schiedermayr, Karl B.	1818-1895	Schied.
Schilberszky, Károly	1863-1935	Schilb.
Schlechtendahl, Diedrich Franz Leonhard von	1794-1866	Schlecht.
Schlecte, Friedrich		Schlechte

Schleicher, Johann Christoph	1768-1834	Schleicher
Schmidt, A.		A. Schm.
Schmidt, Johann Carl	1793-1850	Schm.
Schnabl, Johann Nepomuk	1853-1899	Schnabl
Schnegg, Hans		Schnegg
Schneider, Albert	1863-1928	A. Schneid.
Schneider, Wilhelm Gottlieb	1824-1889	W. G. Schneid.
Schneider-Orelli, Otto	1880-	O. Schneid.
Schofield, Joseph Robert	1868-1928	Schofield
Schrader, Heinrich Adolph	1767-1836	Schrad.
Schrank, Franz Paula von	1747-1835	Schrank
Schrenk, Hermann von	1873-	Schrenk
Schroeter, Joseph	1837-1894	Schroet.
Schubert, Carl		Schubert
Schultz, Eugene S.	1884-	E. S. Schultz
Schultz, Karl Friedrich	1765-1837	Schultz
Schulzer von Müggenberg, Stephan	1802-1892	Schulz.
Schumacher, Heinrich Christian Friederich	1757-1830	Schum.
Schwabe, Samuel Heinrich	1799-1875	Schwabe
Schwarz, Marie Beatrice	1898-	Schwarz
Schweinitz, Lewis David von	1780-1834	Schw.
Scopoli, Giovanni Antonio	1723-1788	Scop.
Scribner, Frank Lamson	1851-1938	Scribn.
Seaver, Fred Jay	1877-	Seaver
Secretan, Louis	1758-1839	Secr.
Seeler, Edgar Viguers	1908-	Seeler
Semadeni, Francesco Ottavio		Semadeni
Serrano, Felicisimo B.		Serrano
Servazzi, Ottone		Servazzi
Setchell, William Albert	1864-1943	Setch.
Seymour, Arthur Bliss	1859-1933	Seym.
Seynes, Jules de	1833-1912	De Seyn.
Shanor, Leland	1914-	Shanor
Shaw, Frederick John Freshwater	1885-1936	Shaw
Shear, Cornelius Lott	1865-	Shear
Sheldon, John Lewis	1865-	Sheldon
Sherbakoff, Constantine Dmitriev	1878-	Sherb.
Shirai, Mitsutaro	1863-1932	Shirai
Shope, Paul Franklin	1894-	Shope
Sicard, Guillaume	1829-1886	Sicard
Sideris, Christos Plutarchos	1891-	Sideris
Siegler, Eugene Alfred	1891-	Siegler
Siemaszko, Wincenty	1887-	Siem.
Siggers, Paul Victor	1889-	Siggers
Sinden, James Thaples	1902-	Sinden
Singer, Rolf	1906-	Sing.
Skaptason, J. B.		Skapt.
Škorić, Vladimir		Škor.
Slagg, Charles Mervyn	1890-	Slagg

Smith, Alexander Hanchett	1904-	A. H. Sm.
Smith, Annie Lorrain	1854-1937	A. L. Sm.
Smith, Charles Leonard	1866- ?	C. L. Sm.
Smith, Clayton Orville	1871-	C. O. Sm.
Smith, Elizabeth Hight	1877-1933	E. H. Sm.
Smith, Erwin Frink	1854-1927	E. F. Sm.
Smith, James Edward	1759-1828	J. E. Sm.
Smith, Kenneth Manley	1892-	K. M. Sm.
Smith, Ralph Elliot	1874-	R. E. Sm.
Smith, Worthington George	1835-1917	W. G. Sm.
Snell, Walter Henry	1889-	Snell
Snyder, Leon Carlton	1908-	L. C. Snyder
Snyder, Lillian		L. Snyder
Snyder, William Cowper	1904-	Snyder
Solheim, Wilhelm Gerhard	1898-	Solh.
Sollmann, August		Sollm.
Solovjev (Solovév), F. A.		Solov.
Sommerfelt, Soren Christian	1794-1838	Sommerf.
Soppit, Henry Thomas	1858-1899	Soppit
Sorauer, Paul Carl Moritz	1839-1916	Sor.
Sorokin, Nikolai Vasilevich	1846-1909	Sorok.
Sousa da Camara, Manuel de	see Camara	
Southworth, Effie Almira (Mrs. V. M. Spaulding)		Southworth
Sowerby, James	1757-1822	Sow.
Sparrow, Frederick Kroeber	1903-	Sparrow
Spaulding, Perley	1878-	Spauld.
Speare, Alden True	1885-	Speare
Spegazzini, Carlos Luis	1858-1926	Speg.
Spencer, Edwin Rollin	1881-	Spencer
Spessa, Carolina		Spessa
Spieckermann, Albert	1871-	Spieck.
Spieshnev, Nikolai (Speschnew)	1844(?)-1907	Spiesh.
Splendore, Achille	1868-1928	Splendore
Sprague, Roderick	1901-	Sprague
Sprengel, Kurt Polycarp Joachim	1766-1833	Spreng.
Stahel, Gerold	1887-	Stahel
Stakman, Elvin Charles	1885-	Stakman
Stansfield, O. P.		Stansf.
Stapp, Carl	1888-	Stapp
Starbäck, Karl	1863-	Starb.
Staritz, Richard	? -1922	Staritz
Starr, Mortimer Paul	1917-	Starr
Steinbuch, J. C.		Steinbuch
Steiner, Gotthold	1886	Steiner
Steinmann, Alfred	1892-	Steinm.
Stevens, Frank Lincoln	1871-1934	F. L. Stevens
Stevens, Neil Everett	1887-	N. E. Stevens
Stevenson, John Albert	1890-	Stevenson
Stewart, Fred Carlton	1868-	Stewart

Stewart, Vern Bonham	1888-1918	V. B. Stewart
Stifler, Cloyd Burnley (Mrs. James M.)		Stifler
Stone, Roland Elisha	1881-1939	Stone
Stoneman, Bertha M.	1866 - ?	Ston.
Störmer, Fredrik Carl Mülerz	1874-	Störm.
Stouffer, David James		Stouffer
Stout, Gilbert Leonidas	1898-	Stout
Strauss, Fridrich Carl Joseph von	1787-1855	Strauss
Sturgis, William Codman	1862-1942	Sturgis
Sturm, Jacob	1771-1848	Sturm
Subramaniam, Lekshminarayanapuram	1890-	Subr.
Sumstine, David Ross	1870-	Sumstine
Sutherland-Campbell, H.		Suth.-Camp.
Swanton, Ernest William		Swanton
Swartz, Olof Peter	1760-1818	Sw.
Swingle, Deane Bret	1879-1944	D. B. Swing.
Swingle, Walter Tennyson	1871-	Swing.
Sydow, Hans	1879-	Syd.
Sydow, Paul	1851-1925	P. Syd.
Tai, Fang Lan		Tai
Takahashi, Yoshinao	? -1914	Tak.
Takimoto, Kiyosumi		K. Takimoto
Takimoto, Seito		S. Takimoto
Tapke, Victor Ferdinand	1890-	Tapke
Tassi, Flaminio	1851-	Tassi
Taubenhaus, Jacob Joseph	1885-1937	Taub.
Tehon, Leo Roy	1895-	Tehon
Teng, K. L.		K. Teng
Teng, S. C.		S. Teng
Tengwall, Tor Åke	1892-	Tengwall
Tepper, Johann Gottlieb Otto	1841- ?	Tepper
Texeira, Alcides Ribeiro		Texeira
Tharp, Benjamin Carroll	1885-	Tharp
Thaxter, Roland	1858-1932	Thaxt.
Theissen, Ferdinand	1877-1919	Th.
Thom, Charles	1872-	Thom
Thomas, Friedrich August Wilhelm	1840-1918	F. Thomas
Thomas, Harold Earl	1900-	Harold E. Thomas
Thomas, Harvey Earl	1890-	H. E. Thomas
Thomas, Roy Curtis	1889-	R. C. Thomas
Thompson, Bertha Emogene		B. E. Thompson
Thompson, Charles Henry	1870-1931	C. H. Thompson
Thompson, George Edward	1903-	G. E. Thompson
Thore, Jean	1762-1823	Thore
Thornberry, Halbert Houston	1902-	Thornberry
Thuemen, Felix Karl Albert Ernst Joachim von	1839-1892	Thuem.
Thurston, Henry Winfred	1893-	Thurston
Tieghem, Phillippe Edouard Leon van	1839-1914	v. Tiegh.
Tilford, Paul Edward	1900-	Tilford

Tisdale, William Burleigh	1890-	Tisdale
Tochinai, Yoshiniko	1893-	Toch.
Tode, Heinrich Julius	1733-1797	Tode
Togashi, Kogo		Togashi
Tognini, Filippo	1867-1896	Togn.
Tomoyasu, Ryokichi		Tomoyasu
Toni, Giovanni Battista de	1864-1924	De T.
Toro, Rafael Andres	1897-	Toro
Torrend, Camillo		Torrend
Torrey, John	1796-1873	Torr.
Totten, Henry Roland	1892-	Totten
Townsend, Charles Orvin	1863-1937	Town.
Trabut, Louis	1853-1929	Trabut
Tracy, Samuel Mills	1847-1920	Tracy
Trail, James William Helenus	1851-1919	Trail
Tranzschel, Woldemar Andreevich	1868-	Tranz.
Trattinnik, Leopold	1764-1849	Tratt.
Traverso, Giovanni Battista	1878-	Trav.
Trelease, William	1857-	Trel.
Trentepohl, K.		Trent.
Trevisan, Vittore Benedetto Antonio	1818-1897	Trev.
Trinchieri, Giulio		Trinch.
Trog, Jakob Gabriel	1781-1865	Trog
Trotter, Alessandro	1874-	Trott.
Trow, Albert Howard	1863-1939	Trow
Truscott, John Henry Lloyd	1905-	Truscott
Tubeuf, Karl von	1862-1941	Tub.
Tucker, Clarence Mitchell	1897-	Tucker
Tuckerman, Edward	1817-1886	Tuckerm.
Tulasne, Charles	1816-1884	C. Tul.
Tulasne, Edmond Louis René	1815-1885	Tul.
(The Tulasne brothers are commonly cited jointly as Tul.)		
Turconi, Malusio	1879-1929	Turc.
Ule, Ernst Heinrich Georg	1854-1915	Ule
Unamuno, Luis M.	1873-	Unamuno
Underwood, Lucien Marcus	1853-1907	Underw.
Unger, Franz Joseph Andreas Nicolaus	1800-1870	Ung.
Vahl, Martin Hendriksen	1749-1804	Vahl
Vaillant, Sébastien	1669-1722	Vaillant
Valleau, William Dorney	1891-	Valleau
Van Beyma thoe Kingma, T. H.		Kingma
Van Breda de Haan	see Breda de Haan	Breda de Haan
Van Hall	see Hall, Constant, J.J. van	v. Hall
Van Hook, James Mon	1870-1935	Van Hook
Vanin, Stephan Ivanovich	1891-	Vanin
Van Luijk, Abraham	see Luijk, Abraham van	v. Luijk
Vanterpool, Thomas Clifford	1898-	Vanterpool
Van Tieghem	see Tieghem, P.E.L.	v. Tiegh.
Velenovsky, Josef	1858-	Velenov.
Venturi, Antonio	1805-1864	Venturi

Verissimo d'Almeida, Jose	1834-1915	Alm.
Verplancke, Germain		Verpl.
Verrall, Arthur Frederic	1905-	Verrall
Verwoerd, Len		Verwoerd
Vestergren, Jacob Tycho Conrad	1875-1930	Vest.
Viala, Pierre	1859-1936	Viala
Viégas, Ahmés Pinto		Viégas
Villars, Dominique	1745-1814	Vill.
Vittadini, Carlo	1800-1865	Vitt.
Viviani, Domenico	1772-1840	Viviani
Vize, John Edward	1831-1916	Vize
Vleugel, Jens Schanke	1854-	Vleug.
Voglino, Pietro	1864-1933	Vogl.
Von Hoehnel (v.Höehnel), see Hoehnel, F. von		Hoehn.
Von Schrenk see Schrenk, H. von		Schrenk
Voorhees, Richard Kenneth	1907-	Voorhees
Voronikhin see Woronichin		Wor.
Voss, Wilhelm	1849-1895	Voss
Vuillemin, Jean Paul	1861-1932	Vuill.
Wadkins, R. F.		Wadkins
Wagener, Willis Westlake	1892-	Wagener
Wahlenberg, Göran	1780-1851	Wahl.
Waite, Merton Benway	1865-	Waite
Wakefield, Elsie Maud	1886-	Wakef.
Wakker, Jan Hendrik	1859-1927	Wakk.
Waldheim see Fischer von Waldheim		
Walker, John Charles	1893-	J. C. Walker
Walker, Leva Belle	1878-	L. B. Walker
Wallays, Antoine Charles François	1812-1881	Wallays
Wallroth, Karl Friedrich Wilhelm	1792-1857	Wallr.
Walter, T.		Walter
Walters, Maurice Burke	1891-	Walters
Warming, Johannes Eugenius Bulow	1841-1924	Warming
Wartmann, Friedrich Bernhard	1830-1902	Wartm.
Waterston, John MacLaren	1911-	Waterston
Watson, Alice Johnson	1898-	A. J. Wats.
Watson, Elizabeth		E. Wats.
Watson, Wade Ralph	1903-	W. R. Wats.
Webber, Herbert John	1865-	Webber
Weber George Frederick	1894-	G. F. Weber
Weedon, Amy Gertrude		Weedon
Weese, Josef		Weese
Wehmer, Carl	1858-1935	Wehmer
Wehmeyer, Lewis Edgar	1897-	Wehm.
Weimer, James LeRoy	1887-	Weimer
Weinmann, Johann Anton	1782-1858	Weinm.
Weir, James Robert	1882-1943	Weir
Weiss, Freeman Albert	1892-	Weiss
Welch, Donald Stuart	1894-	Welch
Welles, Colin Gilchrist		Welles

Went, Friedrich August Ferdinand Christian	1863-1935	Went
Wernham, Clifford Charles	1903-	Wernham
West, Erdman	1894-	E. West
Westendorp, Gérard Daniel	1813-1868	West.
Weston, William Henry	1890-	Weston
Westerdijk, Johanna	1883-	Westerdijk
Westling, Richard		Westling
Wettstein, Richard von	1863-1931	Wettst.
Whetzel, Herbert Hice	1877-	Whet.
Whiffen, Alma Joslyn	1916-	Whiffen
White, Harold Everett	1899-	H. E. White
White, Richard Peregrine	1896-	R. P. White
White, Violetta Susan Elizabeth	1875-	V. White
White, William Lawrence	1908-	W. L. White
Wiggers, Fredrich Heinrich	175?- ?	Wigg.
Wilcox, Edwin Mead	1876-1931	E. M. Wilcox
Wilcox, Marguerite Statira		M. S. Wilcox
Wilcox, Raymond Boorman	1889-	R. B. Wilcox
Wildeman, Emile de	1866-	Wildeman
Wiley, Henry	1824-1907	Wiley
Willdenow, Carl Ludwig	1765-1812	Willd.
Wille, Johan Nordal Fischer	1858-1924	Wille
Williamson, Maude Miller		Williamson
Willkomm, Heinrich Moriz	1821-1895	Willk.
Wilson, Edward Elmer	1900-	E. E. Wils.
Wilson, Guy West	1877-	G. W. Wils.
Wilson, Malcolm		M. Wils.
Wiltshire, Samuel Paul	1891-	Wiltshire
Wineland, Grace Odel (later Pugh)	1889-	Wineland
Wingard, Samuel Andrew	1895-	Wingard
Winge, Ojvind	1886-	Winge
Winslow, Charles Edward Amory	1877-	Winsl.
Winter, Heinrich Georg	1848-1887	Wint.
Wirtgen, Phillip Wilhelm	1806-1870	Wirtgen
Withering, William	1741-1799	With.
Wolf, Frederick Adolph	1885-	Wolf
Wolf, Frederick Taylor	1915-	F. T. Wolf
Wollenweber, Hans Wilhelm	1879-	Wr.
Wormold, Hugh		Wormold
Wormskjold, Martin	1783-1845	Wormsk.
Woronichin (Voronikhin), Nikolai Nikolaevich	1882-	Woron.
Woronin, Michel Stepanovich	1838-1903	Wor.
Wróblewski, Anton		Wrób.
Wulfen, Franz Xavier von	1728-1805	Wulf.
Yamagiwa, Suewo		Yamag.
Yamamoto, Wataro		Yamamoto
Yoshii, Hazime	1900-	Yoshii
Yoshimura,		Yoshimura

Yoshino, Kiichi		Yoshino
Young, Esther	1893-	E. Young
Young, Paul Allen	1898-	P. A. Young
Zahlbruckner, Alexander	1860-1938	Zahlbr.
Zaumeyer, William John	1903-	Zaum.
Zeller, Sanford Myron	1885-	Zeller
Zimmermann, Albrecht	1860-1931	Zimm.
Zinssmeister, Carl Luther		Zinss.
Zopf, Friederich Wilhelm	1846-1909	Zopf
Zundel, George Lorenzo Ingram . .	1885-	Zundel

DIVISION OF MYCOLOGY AND DISEASE SURVEY, BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING, AGRICULTURAL RESEARCH ADMINISTRATION, UNITED STATES DEPARTMENT OF AGRICULTURE.

ROOT ROT DISEASE-COMPLEXES OF TOBACCO WITH REFERENCE TO THE MEADOW NEMATODE; A PRELIMINARY REPORT

Wilbert A. Jenkins

Of the numerous investigators who have worked with tobacco root rots, few indeed have failed to note the etiological complexity of the diseases. Several biologic associations of a more or less definite nature have been outlined, particularly in studies with black root rot. Aside from the biologic-ecological aspects of black root rot, other investigators have postulated varying, though critical, physical influences such as temperature, moisture, and soil pH as paramount to an understanding of the disease. Brown root rot, while not the subject of so many contributions, has been treated in a somewhat similar manner.

During the past 3 years black root rot has been the subject of an intensive study at this Laboratory. Many of the findings of other investigators have been confirmed in part, but in no instance have we felt that the information at hand has provided a key to the solution of the disease causation. Prior to our knowledge of the enormous populations of the meadow nematode group in this area, 2 aspects of our inoculation studies began to focus our attention on the possibility of another biologic component in the black root rot picture which had not previously been determined.

First, by close study of the origin and development of black root rot lesions, it soon became apparent that potential lesions could be traced back to loci which, during early stages of differentation, were mycologically sterile. Second, it was soon noted that air-dried soils, known to be heavily infested with Thielaviopsis basicola, rarely yielded typical black root rot symptoms on susceptible tobacco potted in them. Often, susceptible plants in such soils failed to develop typical black root rot symptoms, even when inoculated with pure cultures of Thielaviopsis basicola. On the other hand, soils from the same source and collection always gave uniform black root rot symptoms if kept moist enough to sustain the growth of grass and weeds. It appeared unreasonable that thorough

air-drying would destroy the chlamydospores of Thielaviopsis basicola.

During this period several other root rot disease-complexes came to our attention, including the decline diseases of boxwood (Buxus sempervirens) and grapes (Vitis spp., but not V. rotundifolia), wheat, rye, and barley, and brown root rot of tobacco. Several of these, being uncomplicated by other agents, focussed our attention on the meadow nematode group as a possible initiating agent in black root rot of tobacco.

The roots of rye plants taken from our black root rot fields during March showed typical, uncomplicated lesions from which the meadow nematode was readily obtained by teasing the tissues apart. Soils from these fields were again brought into the greenhouse and potted. Susceptible and highly resistant varieties of tobacco (black root rot resistant) were set into the soils. At this writing, 2 to 3 successive plantings of tobacco have been set into the soils, and the results have been uniform throughout. The lesions, which will be described later, when examined within 2 weeks of the transplanting date, were numerous and evident on all the young roots. When examined within 10 days after the transplanting date, the young lesions yielded numerous meadow nematodes. After this period, root regeneration was more or less retarded and the older lesions rarely yielded nematodes. Roots thus affected had either begun to decay, or if not too badly injured, had begun to show fungous successions; these latter usually terminating in typical black root rot symptoms on the susceptible varieties.

Soil was also brought into the greenhouse during this period from some of our rotation plats, on certain of which fully 90% of the current season's wheat crop was killed out by root rot. The symptoms were typical of those caused by the meadow nematode in this area and meadow nematodes were teased out of the lesions in great profusion. Entirely similar results to those listed above were obtained when susceptible and black root rot resistant tobacco seedlings were transplanted to the soil from the wheat plats, except that the resulting lesions were uncomplicated by black root rot.

In order to test our basic theory further, soil was brought into the greenhouse from a field that produced a tobacco crop failure in 1943 due to brown root rot. When this crop was first seen, fully 4 weeks after the transplanting date, the stand was poor and the surviving plants were severely stunted. In addition, the younger leaves on all the affected plants were noticeably flaccid during the day, presenting a typical picture of flop. The root symptoms were reminiscent of black root rot, except that such severe symptoms were never before encountered on the variety in question. Microscopic examination showed no evidence of Thielaviopsis basicola. In fact, young lesions were mycologically sterile. For want of a better designation, the disease was diagnosed as brown root rot. Later, consultation with co-workers and the literature confirmed the diagnosis. The history of the land also substantiated the diagnosis and the crop suffered essential total loss.

Susceptible and black root rot resistant plants developed root symptoms identical with those seen in the field when transplanted to this soil in the greenhouse. When examined within 10 days to 2 weeks following transplanting, numerous, uncomplicated lesions were found on all the young roots. The lesions were indistinguishable from those of similar age de-

veloped in soils from our wheat field and from our black root rot field. Meadow nematodes were abundant in all the young lesions; while slightly older lesions yielded either gravid females or no nematodes at all. Typical black root rot lesions never developed.

Symptoms common to the root rot-complexes caused by meadow nematodes in this area:

Whether on the roots of boxwood, grape, small grains, or tobacco, the early manifestations of meadow nematode injury appear in the form of more or less numerous lesions on the young roots. The earliest distinguishable lesions, which generally yield nematodes in the greatest numbers, may appear at any locus on the root ranging from just behind the growing point to relatively mature tissue. As a rule, most lesions and the more severe early symptoms appear in the region of elongation, though it is entirely possible that the lesions are initiated in much younger tissues. Instances in which the growing point was entered have not been seen, but such entry is suspected. The lesions are at first devoid of pigment but may appear slightly raised and watersoaked when seen under magnification. The nematodes soon reach the cambial layer. With age and the continued development of the nematodes, the lesions become progressively more discolored. The earliest color change is to pale cream or pale yellow, finally developing a reddish to black appearance, apparently depending somewhat on the nature of the biologic successions. Lesions are quite often found over the potential exit of a lateral root, or in the crotch of a lateral root, but whether these loci are favored or by chance is not known. All lesions sooner or later result in separation of the cortical tissues from the woody cylinder at the cambium. In this condition the cortical tissues slough off readily in a sleeve-like fashion. Lesions uncomplicated with root rotting fungi generally shrivel up and die; if the lesions are numerous on a root, the entire root often shrivels and dies. Those, as on susceptible strains of tobacco, complicated with Thielaviopsis basicola generally rot from the lesion toward the root tip, resulting in extensive root pruning. Not enough is known of the life cycle of the meadow nematode to postulate successive penetrations of a given root system, but gravid females have been found in lesions on tobacco roots within 14 days after the plants were set in contaminated soil. We are likewise uncertain as to whether one or several species of nematodes are concerned in the root rot-complexes initiated by the meadow nematode in this area. However, those with which we are concerned are similar enough to be included in the category of the meadow nematode group.

The above-ground symptoms vary specifically with the type of plant infected but in general the symptoms resemble mild to severe drought symptoms on the foliage. A more complete report on this subject is being prepared for publication.

VIRGINIA AGRICULTURAL EXPERIMENT STATION, TOBACCO RESEARCH LABORATORY, CHATHAM.

TOBACCO DOWNY MILDEW IN THE CAROLINAS

R. E. Atkinson

Plant beds in 7 counties in the "Border Belt" of North and South Carolina were inspected for blue mold [downy mildew, Peronospora tabacina] from April 10 to 22. The writer was accompanied by Dr. T. W. Graham of the Pee Dee Experiment Station, and for one day by Dr. E. E. Clayton. The counties visited were Darlington, Florence, Williamsburg, Marion, and Horry Counties of South Carolina and Robeson and Columbus Counties of North Carolina.

Fifty tobacco beds taken at random, and in addition several treated beds, were selected for inspection. Fifty unselected beds totaled approximately 22,275 sq. yards. The plants varied greatly in size, some the size of a dollar, others ready to set. Less than 1% of the growers have started to set plants; many of those who have started have treated their beds, while others are undoubtedly setting out infected plants. Because infected plants invariably die, most growers prefer to wait until the blue mold has been completely checked before planting. Infected plants that are not killed become hardened and develop immunity from blue mold. Thus an infected bed is "swept over" by blue mold. The plants in a severe attack are delayed about 2 weeks or more. One grower estimated that this 2-weeks' delay in planting caused a loss of $175 per acre. The reduction in yield is due to the harmful effect of hot weather, rootknot, meadow nematode, and other factors that interfere with the growth of late-set plants.

Only 4 beds did not have blue mold. In 26% the disease was just starting to develop. In 60% the fungus was causing maximum damage, characterized in most cases by the death of small plants, and in many cases probably causing 2 to 3 weeks and often 4 weeks delay in setting out. Only in 3 instances had the fungus "swept over" the beds. In 2 of these damage had been light probably because the unthrifty condition of the plants had hardened them.

In general, damage was most severe in Williamsburg, Florence, and Horry Counties of South Carolina. These lie in the southerly part of the border belt. In Darlington, Marion, Robeson, and Columbus Counties practically all beds were infected but in many the disease was just starting. The weather since the beds were inspected has been ideal for blue mold and severe damage can be anticipated in the entire border belt. The scarcity of plants will not be equal to that of last year when the damage from severe blue mold epidemics was heightened by a late freeze. The average planting date, however, will be well into May. Ideal time for planting is usually from April 15 to 25.

The sad part of this year's epidemic is that it came in quite late when many plants were almost ready to set, and the growers are watching weeks of ideal planting weather go by, with their plants the right size for setting, but they dare not set infected plants.

Very few, not 5%, of the growers, are treating plant beds with P. D. B.; those who are treating are the larger growers with more yardage. One dealer

in Marion County reported sales of about 10 tons of P. D. B. In all cases where the treatment was correctly applied practical control was obtained.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

LATE BLIGHT OF POTATOES FROM "HEALTHY" TUBERS

W. D. Thomas, Jr.

During investigations on the epidemiology of late blight (Phytophthora infestans) on potatoes in 1943, late blight sometimes appeared on sprouts from tubers having no visible lesions. This was first observed during experiments in the greenhouse. Thirty-nine "blight-free" tubers were treated with 1:1000 $HgCl_2$, and were planted in sterile soil. Sterile Mason jars were placed over the sprouts as soon as they began to emerge, in order to provide high humidity conditions for the development of blight, if it were present, and to exclude contamination from other sources. Late blight appeared at the tips of the first leaves from 20 of these tubers. Examination of sections of the sprouts revealed non-septate hyphae throughout the phloem.

Late blight was observed in the field, also, on sprouts from tubers which were planted as blight-free, although the entire lot came from a seed stock known to have contained some blight. Out of approximately 600 hills from apparently "healthy" tubers, 9 hills had blighted sprouts. Between the time of emergence and the appearance of late blight symptoms on the sprouts, vaseline coated slides were exposed daily on a swivel spore-trap in the experimental plot. During this period no Phytophthora spores were found on the slides, although they were sometimes numerous after the lesions on the sprouts began to bear conidiophores and conidia.

Although the possibility of wind-borne infection cannot be completely excluded in the latter sample, the results of the first make such a possibility seem unlikely. This also is true of soil-borne infection, which almost can be ignored, as the field plot had not been planted to potatoes for many years. These observations indicated that apparently blight-free seed coming from a blighted seed stock are not necessarily free from the disease.

UNIVERSITY FARM, ST. PAUL, MINNESOTA

LATE BLIGHT AND OTHER DISEASES OF POTATO IN SOUTHERN LOUISIANA AND MISSISSIPPI

Douglas C. Bain

Louisiana. Most of the period from April 11 to 22 was spent in extreme southern Louisiana in a thorough survey of the early potato area in Terrebonne and Lafourche Parishes, where approximately 15,000 acres of potatoes are grown. This survey was considered desirable because of outbreaks of

late blight (Phytophthora infestans), and because there appeared to be an unusual amount of rugose mosaic (virus). The data obtained in this region are summarized in the accompanying table.

For this area as a whole, damage from late blight was considered to be light thus far, mainly because the tubers were mostly "made", and because extensive killing had not occurred where the disease was observed. In Terrebonne Parish, late blight was found in only one field; however, it should be added that not every field in the whole area was surveyed systematically. The disease was causing considerable damage in this field. In Lafourche Parish late blight was observed in 3 fields, in addition to those noted previously (PDR, April 15, page 343).

As noted in the preceding report (l.c.) frost had caused considerable damage in one localized area, Bayou Blue and Coteau in the triangle formed between Houma, Raceland, and Thibodaux. Frost damage was negligible outside of this area.

Rugose mosaic varied from a trace to 20% infection, the latter by count. Haywire (virus) was seen in practically all of the fields inspected but amounted to only a trace. Fusarium wilt (Fusarium oxysporum) also occurred in traces in almost all fields. In one field only, early blight (Alternaria solani) infection was heavy, but the plants were practically mature. Rhizoctonia canker (Rhizoctonia solani) was seen in 2 fields.

In other southern Louisiana areas, a trace of rugose mosaic was seen in 3 small acreages in Lafayette Parish.

Approximately 1200 acres planted to potatoes at the Louisiana State Prison at Angola in West Feliciana Parish were examined by the writer in company with Dr. E. C. Tims and Dr. L. H. Person. Only a trace of late blight was found here, and only a trace of rugose mosaic. Hail had caused rather severe damage to the stems on from 200 to 300 acres and light damage to other fields in the acreage. In the severely damaged area the plants appeared to be recovering and will probably resume growth. Plants seemed to be in good condition except for one large acreage where they were abnormally yellow with a generally unthrifty appearance; it is possible that these plants had suffered somewhat from drought. It was noted in rows being dug that grass and weeds plowed under prior to planting had not completely decayed, and the soil below the surface was quite dry.

Mississippi. In southern Mississippi surveys were made in the Columbia area of Marion County during the week April 24 to 29. Spring weather in this region has been unusually wet. This is apparently the largest early potato section in Mississippi, about 3000 acres being planted. Fields of more than 10 acres are rare, the average being between 2 and 5 acres. Eleven of the larger fields were examined. A trace of late blight was found in 3 fields, and in one 10-acre field at Columbia fully one acre was heavily blighted. A trace of late blight was also found in 2 small fields in Jefferson Davis County adjoining.

Rugose mosaic was found in several of the fields, infection varying from a trace to over 40%. This heavy infection occurred in one field of about 6 acres in which counts of several groups of 100 plants each in the least diseased areas averaged more than 40%. Potatoes in this field were from certified Nebraska seed.

A trace of haywire was found in 5 fields.

Table 1. Summary of disease notes taken in potato fields surveyed in Terrebonne and Lafourche Parishes. Data reported previously not included.

Location of field*	Approximate acreage	Estimated percentage of Late blight	Rugose mosaic	Early blight	Hay-wire	Fusarium wilt	Rhizoctonia	Remarks
Near Schriever, T	2	0	5	0	0	0	0	
Gray, T	10	50-60	4		tr	0	0	Considerable damage by late blight
Lockport, L	30	0	tr	0	0	0	tr	
Near Valentine, L	15-20	0	tr	0	tr	0	0	About 30% hair sprout in 3 acres of White Rose
Below Cut Off L	18	100	tr	0	tr	0	0	Late blight damage not severe
Near Bourg, T	50	0	tr	0	tr	tr	0	
Near Bourg, T	80	0	tr	0	tr	tr	0	
Montegut, T	25	0	tr	0	tr	tr	0	
Pointe au Chien, T	3	0	tr	75-100	0	0	tr	
Bayou DeLarge, T	20	0	3	0	1	0	0	Considerable tip burn
Coteau, T	15	0	0	0	0	0	0	Severe freeze injury
Below Thibodaux, T	6	0	20 by count	tr	tr	tr	0	Seed from Nebraska
Chaque Bay, L	20	10	tr	0	tr	0	0	
Clovelly Farms, L	50	tr	tr	0	tr	0	0	Heavy late blight infection in other fields here reported by L. H. Person; potatoes being sprayed

* T = Terrebonne Parish L = Lafourche Parish

EMERGENCY PLANT DISEASE PREVENTION PROJECT

LATE BLIGHT IN OTHER SOUTHERN STATES

LATE BLIGHT IN SOUTH CAROLINA: Late blight (Phytophthora infestans) of potatoes was found in 2 fields in Charleston County on April 18. Evidently the disease had been present in those fields for some time for most of the foliage of many plants had been killed. On April 24 infection was general in most fields on Edisto and Wadmalaw Islands. By May 1 fields in which the disease was first found looked as if a fire had passed over them. The disease is present in all fields and the prospects for a potato crop are about 10% of a crop, considering the area as a whole. The poor crop is the result of excess rain, late frosts, and late blight. The weather has been very favorable for blight development during the past month and continues so. -- C. N. Clayton, South Carolina Truck Experiment Station, Charleston.

GEORGIA: The week of April 24 was spent in the Savannah area. As is true of the entire State, crops were found to be suffering from the extremely wet weather. The lettuce and potato crops are especially severely affected.

Eight fields of potatoes comprising 315 acres were examined. The crop is in early bloom and will not be harvested before the last week in May or the first week in June. Stands are only fair; vine growth is good but potatoes are slow in forming and are extremely small. Potato bugs are unusually active and are doing considerable damage. A stalk borer had reduced stands in a number of fields, in one case as much as 15%.

Late blight is not serious in this area except in rainy seasons, and the growers as a whole are not in the habit of spraying for the disease. However, this is an unusually favorable "late blight season" and, unless growers begin spraying, losses are apt to be serious. A general but light infection was found in a 200-acre planting of Red Bliss. An interesting situation was found in the same community. A field of about 10 acres was planted one half to Red Bliss and the other half to a white variety. The white variety was a total loss from late blight, while the Red Bliss was only moderately infected. No doubt the infection was seed-borne on the white variety. Blight was found scattered in all of the fields examined. No other diseases were observed. -- G. M. Stone, Emergency Plant Disease Prevention Project.

LOWER RIO GRANDE VALLEY OF TEXAS: Late blight of tomatoes and potatoes, previously reported by Dr. Stuart M. Pady, was relatively inactive during April, and damaged leaves had dried up, and in many cases had been dropped from the plants. No new infections were noted. -- George E. Altstatt, Emergency Plant Disease Prevention Project.

NEMATODES ON POTATOES IN THE HASTINGS SECTION OF FLORIDA

A. L. Taylor

During the period April 17 to 22, potatoes and cabbage in the vicinity of Hastings, Florida, were examined. Potato harvest in this section was in full swing but the cabbage harvest was past its peak.

The soil in this area is sandy. Artesian water is available for irrigation. Potatoes are planted early in January and are harvested 110 to 120 days after planting. At present, Sebago is the favorite variety, having replaced others almost completely. Seed is usually obtained from Maine. Potatoes have been grown in this section for many years and some fields have been used for potatoes every year for more than 10 years. During the summer, corn or cover crops of cowpeas or sesbania are generally used.

This year, the latter part of the potato-growing season was very wet. Under such conditions, the Sebago potato develops large and prominent lenticels. These lenticels were often observed to be discolored as though infected by bacteria or fungi, but nematodes were not found in them.

Tubers were examined in the field and on the sorting belts all over the area. At no place were more than an estimated 5% being culled for imperfections of all kinds and at most places the percentage of culls was even less. Perhaps the most important single cause of culling was sunburn, as the heavy rains at the end of the season had washed the soil off many potatoes in the fields.

Only a trace of infection by the rootknot nematode, Heterodera marioni was found on tubers or on roots of plants in the fields. No injury to plants was observed and no tubers were found to have been discarded because of rootknot.

Cull potatoes examined in the laboratory had lesions caused by various fungi and bacteria. Associated with these lesions, evidently as a secondary invaders, were small numbers of nematodes of the genera Aphelenchoides, Cephalobus, Diplogaster, Rhabditis, Helicotylenchus, and Acrobeles.

Cabbage plants examined in several fields had no rootknot. According to the local farmers, rootknot is not uncommon on cabbage planted early in the season.

The small amount of rootknot found in this section was somewhat unexpected since the sandy soil and the cropping system appear to be favorable to the nematode. The explanation is probably to be found in the fact that the crops are grown when the soil temperature is at its annual minimum.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

CONDITION OF SEED POTATOES IN MASSACHUSETTS

R. C. Cassell

Eighty-five lots of seed potatoes were examined on 39 farms in Bristol and Plymouth Counties, April 13 to 22. Of the 85 lots of seed being used this year 77 were certified, 6 were Maine-grown not certified, and 2 lots

were home-grown seed not certified. One lot of certified Chippewas was tuber-unit tested. The seed represented in this survey proved to be from 32 different sources. Twenty-four known sources were from the State of Maine and 5 were from Eastern States Exchange (origin not stated on tag). One lot was from the State of Vermont. Of the 85 seed lots 32 were Green Mountain, 20 Irish Cobbler, 12 Sebago, 11 Chippewa, 9 Katahdin, and 1 Houma.

Most growers are pretty well satisfied with the seed this year but the greatest complaint seems to be of the generally large size of the seed tubers. This is of course due to the fact that most Maine potatoes grew extraordinarily large last year. Twenty-nine of the lots showed unmistakeable evidence of wet storage conditions in Maine this year. Such lots were either slightly pitted on the surface or a trifle discolored. One lot of certified seed was so bad that the grower discarded them. Complaints of bruising are also common this year.

Scab (Actinomyces scabies) was found in 19 of the 85 lots but usually existed as a trace to only slight amounts. Three lots had deep scab in moderate amounts.

Rhizoctonia (Rhizoctonia solani) was also found in 19 of the 85 lots. Usually only traces to slight or moderate amounts could be detected; however, one lot had about 60% and another 80% prevalence.

Late blight rot (Phytophthora infestans) was found in 11 of the 85 lots. Usually only one or two blight rot tubers could be found in a 100-pound bag of the 11 lots. The worst, a certified lot, averaged about 4 or 5 blight rot tubers to a bag.

Ringrot (Corynebacterium sepedonicum) was found in 3 of the non-certified lots, of different varieties but produced by the same grower. It was impossible to determine the amount present as the seed had been cut.

Surface pitting (probably bacterial slimy rot) was found in 29 of the 85 lots. The surface pitting appeared to be the result of wet storage conditions early in the fall and winter before bagging. In only one case was active pitting still in progress. This was certified Green Mountains and the tubers were so badly defaced, moist, and soft that the grower had decided not to use the seed. Except for this one case the pitting was dry and inactive, and pitting occurred only in traces to slight amounts.

Net necrosis (leaf-roll virus) was found as a trace only in 2 lots of certified Cobblers.

Stem-end browning (cause unknown) was found in 27 out of 52 lots of Green Mountain and Irish Cobblers. Average prevalence in the 52 lots was 11%. Individual lots ran as high as 40% and 50% with some fairly severe cases.

Hollow heart (nonparasitic) was present to some extent in 10 lots and not all lots could be examined for hollow heart.

Freezing injury (nonparasitic) was found in 6 lots. No case was severe.

Bruising injuries (nonparasitic) existed to some extent in practically all lots. It was unusually bad in most lots with some of the Cobblers having 70% to 80% of the tubers injured.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

REPORTS ON TRANSIT AND STORAGE DISEASES

CONDITION OF GOVERNMENT-STORED MAINE POTATOES IN PROVIDENCE, RHODE ISLAND: The Merchants Cold Storage in Providence had stored 40 cars of bagged Maine potatoes the first week of March (PDR 26(6),231). This was in a warehouse with no special cooling facilities. On April 18 all but about one car of the potatoes had been reshipped for utilization. The potatoes had kept exceedingly well and except for sprouting which was not bad, practically no storage loss was encountered.

Of the 40 cars received all but one car were in good condition. Emergency measures were employed to dry and otherwise save the potatoes from this car but efforts were mostly useless. The potatoes in this car were almost an entire loss, but this could not be attributed to the storage conditions in Providence. -- R. C. Cassell, Emergency Plant Disease Prevention Project.

DECAY OF SQUASH IN STORAGE AND TRANSIT IN WASHINGTON: About 350 tons of squash of the Marblehead and Table Queen varieties in Whitman County were lost due to decay in storage and transit. This loss represents approximately 70% of the crop from one large planting in this area. Isolations from a limited number of squashes indicated 4 fungi as most prominently involved. No species determinations were made. Alternaria sp., Botrytis sp., Fusarium sp., and an unidentified fungus were isolated with frequencies in the order named. Harvest was carried out during a period of high humidity with frequent showers. The squash was stored without sufficient ventilation and free moisture was present on the surface of the fruits from several days to two or more weeks after storage. A killing frost preceded harvest. A small amount of squash was harvested during dry weather previous to the fall rains and stored in the same place as that harvested later. Decay was much more prevalent in the material harvested during wet weather. -- E. J. Anderson, Washington Agricultural Experiment Station

OCCURRENCE OF CROWN NECROSIS IN LETTUCE

Horace L. Barnett and William C. Snyder

Early in April growers in the Salinas Valley called attention to an unrecognized disease of lettuce characterized by the sudden wilting and death of scattered plants in the field.

The field picture of the disease resembled somewhat that of drop (Sclerotinia sclerotiorum), but an examination of affected plants gave no evidence of the presence of this fungus. Except for a few of the oldest lower leaves in contact with the soil, and for the occasional infections by downy mildew (Bremia lactucae) and gray mold (Botrytis cinerea), the tops showed no symptoms of direct fungous or bacterial invasion. Typically, also, the external appearance of the crown and root was that of sound tissue. It was only when the tap root and crown were cut open that the cause of the wilting became evident.

Internal symptoms of the crown and upper tap root consisted of a light to dark brown necrosis, somewhat firm to cheesey in consistency. This

necrosis involved for the most part the woody tissue just below the crown and usually was surrounded by sound cortical tissue. However, the internal browning was found to extend from the crown into the lower leaf bases. It is suspected that the disease may have started in one or more leaves next to the ground and progressed downward into the interior of the plant through the leaf bases.

Cultures made of the affected tissues have yielded rather consistently a member of the Pythiaceae. The fungus is being tested to determine what, if any, relationship it may bear to the disease. An environmental factor which may have had an influence on the appearance of the disease was the occurrence this season of frosts severe enough to blister some of the outer leaves.

In view of the fact that the disease has not been recognized before in the area, a special survey was made in the Salinas Valley on April 11, 12, and 13. The survey was made with the cooperation of the office of the Agricultural Commissioner of Monterey County. The principal lettuce growing areas throughout the valley were covered. Since the plantings of lettuce in the Watsonville area were considerably later this area was not included in the present survey.

The disease was found in 10 different fields. The approximate locations of these fields are as follows: (1)(*) 5 miles southeast of Salinas; (2) near number 1; (3) (*) 10 miles southeast of Salinas and 5 miles east of Chualar, isolated from any other lettuce field by a few miles; (4) 4 miles south of Chualar on U. S. 101; (5) west of Chualar on the east side of the Salinas river; (6); west of Chualar on the west side of the river; (7) and (8) on the Monterey road near the river southwest of Salinas; (9) (*) near the Monterey road at the southwest edge of Salinas; (10) one mile east of Spreckles. The 3-fields marked (*) showed the greatest damage. Representative areas in these 3 fields where counts were made showed approximately 5% to 10% dead plants due to this disease. In some fields only a few scattered diseased plants were found. It was noticeable that the damage was more severe in certain parts of the field than in others. In the most heavily infected area seen, which represented only a small portion of the field, approximately 25% of the plants were dead. The more heavily infected areas were located on both the higher ground and in the lower areas of the fields and on both light and heavy soil. All the fields where the disease was found had been planted in late fall or early winter, mainly during November and December. The younger plantings were apparently free from the disease.

The disease was not found in the vicinities of Gonzales, Soledad, San Juan, and the area north and northeast of Salinas.

EMERGENCY PLANT DISEASE PREVENTION PROJECT, U. S. BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING, and DIVISION OF PLANT PATHOLOGY, UNIVERSITY OF CALIFORNIA, BERKELEY.

REPORTS ON DISEASES OF VEGETABLE CROPS

CONDITION OF GREENHOUSE CROPS IN EASTERN MASSACHUSETTS: Several greenhouses in Eastern Massachusetts were visited April 12 in the company of Dr. E. F. Guba of the Waltham Field Station. The plan was to make an intensive survey of the greenhouse crops of the area but it was found that the crops were not sufficiently advanced at this time to have any serious disease problems. The survey will be undertaken again at a later date.

On lettuce diseases were found in only 2 houses. In one house a single plant with mosaic (virus) was seen and in another a slight amount of Rhizoctonia solani was present.

In one house there was a general presence of chlorotic spots (cause undetermined) on the older leaves of Water-cress. Cutting had been done above the affected area with no apparent commercial loss.

Tomatoes in 2 houses were affected with diseases. In one house in Arlington practically all the plants were infected with mosaic (tobacco virus). In another house in South Sudbury a grower was having considerable trouble with Rhizoctonia solani root and crown rot infection. Water was being temporarily withheld and the plants appeared in a surprisingly vigorous condition. It was thought that the plants would outgrow the attack successfully.

Other greenhouses with cucumbers and radishes appeared disease-free. -- R. C. Cassell, Emergency Plant Disease Prevention Project.

DISEASES OF PLANTS IN LONG ISLAND AND STATEN ISLAND COLD FRAMES: Coldframe diseases were less this year in Nassau County. Botrytis rot of lettuce was less than 2% in those frames visited where Lettuce is being grown for market. In frames on one farm where the seed was sown last October to be transplanted in February there was as much as 25% loss from Botrytis rot. Seed sown after the first of the year showed only a 1 to 2% loss in the worst frames. Botrytis rot of Dandelion on Staten Island caused about a 50% loss in one small frame not properly ventialted. Other frames that had been properly managed were free from this disease. Wire stem (Rhizoctonia solani) of Cabbage was found on 2 farms, especially on red cabbage.

Growers who have changed from cold frames to plant houses for the production of their young plants have been able to reduce the amount of disease to a point where it is difficult to find any diseased plants. -- F. M. Gordon, New York State College of Agriculture, Departments of Entomology and Plant Pathology, Weekly News Letter Concerning Insect Pests and Plant Diseases, April 24 issue.

CONDITION OF CUCUMBERS IN OHIO GREENHOUSES: A total of 15 acres of cucumbers in several greenhouses near Cleveland and Ashtabula were seen during the week from April 17 to 22. The vines were just coming into full bearing. No diseased vines were seen. A few older leaves were yellowing due to a lack of light. -- M. R. Harris, Emergency Plant Disease Prevention Project.

LETTUCE DISEASES IN NORTH CAROLINA: Because of the unfavorable season there is not much difference in the heading dates between the Charleston-Beaufort area of South Carolina and the Wilmington area of North Carolina. Last week some head lettuce was marketed in Wilmington.

The mosaic (virus) of lettuce described in a previous report (PDR 28: 344, Apr. 15, 1944) from the Charleston area produces as a characteristic symptom a necrotic flecking on Iceberg which is similar to if not identical with the symptoms of "brown blight" and those of the virus disease described by Samson (PDR 28:203. 1944).

This symptom was not observed in the Wilmington area on any of the 3 popular types, Iceberg, Romaine, and Big Boston. In this area these types were invariably affected with the big vein virus disease. In some fields 30% of the plants were affected. The average percentage of disease was about 20 in the Romaine type plants and slightly less in the Big Boston. In addition from 1 to 2% of the plants in all fields showed symptoms that could be ascribed to mosaic.

The high percentage of plants affected with big vein has no doubt been induced by the excess moisture this season (D. E. Pryor, Journ. Agr. Res. 68:1-9. 1944).

Septoria [lactucae] leaf spot was very common in fields of Romaine and Big Boston. In most fields every plant was infected, with all of the lower leaves badly spotted.

A scattering of plants visibly affected by bottom rot [Rhizoctonia solani], and some with drop [Sclerotinia sclerotiorum], were observed in every field. The percentage of infected plants was never greater than 1. -- R. E. Atkinson, Emergency Plant Disease Prevention Project. April 10 - 22.

LETTUCE DISEASES IN GEORGIA: The week of April 24 was spent in the Savannah area. As is true of the entire State, the crops were found to be suffering from the extremely wet weather. The lettuce and potato crops were especially severely affected. Little was found in the way of the usual spring plantings.

Two fields of lettuce, one of 30 acres and the other of 50 acres, were examined. Besides severe damage from wet weather, Sclerotinia drop and bacterial soft rot were also taking a heavy toll. The sound heads, not more than 30%, were being harvested. -- G. M. Stone, Emergency Plant Disease Prevention Project.

DOWNY MILDEW OF ONIONS IN GEORGIA: Several fields of onions were observed in the Claxton area. Except for scattered infections of downy mildew [Peronospora destructor] the crop was free from diseases; however, the crop is very poor. -- G. M. Stone, Emergency Plant Disease Prevention Project. Week of April 24.

DISEASES OF ONIONS AND SHALLOTS IN SOUTHERN LOUISIANA: About 1% of the seed onions in 2 or 3 acres at Lafayette were attacked by purple blotch (Macrosporium [Alternaria] porri). Between Cut Off and Golden Meadow in Lafourche Parish, over 50% of the seed stalks in a half-acre field had fallen over prematurely, probably as a result of downy mildew (Peronospora

destructor). The rest of the plants were heavily infected with the fungus and total loss appeared to be only a matter of time. This is the first evident damage caused by the downy mildew fungus to be noted by the writer this year.

A considerable amount of pink root (Phoma terrestris) and a trace of yellow dwarf (virus) were noted in shallots at Angola, West Feliciana Parish. -- Douglas C. Bain, Emergency Plant Disease Prevention Project. April 11 - 12.

CONDITION OF PIMENTO PEPPER PLANT BEDS IN GEORGIA: A survey was made of pimento pepper plant beds in the Griffin area during the week of April 17 to 22. Most of the plants in the section are grown on contract for a canning company. The seed, furnished by the company, were treated with a normal Semesan solution at harvest time. They were also treated with Spergon at planting time. Neither bacterial leaf spot [Xanthomonas vesicatoria] nor Cercospora [capsici] leaf spot, both of which were unusually severe last fall in the area from which the seed were harvested, was observed. Damping-off was found to be causing severe damage at one location where poor management was in evidence. -- G. M. Stone, Emergency Plant Disease Prevention Project.

TOMATO PLANT SITUATION IN GEORGIA: The Georgia tomato plant situation is somewhat improved. The total acreage is about 75% of that originally anticipated. It is further estimated that, owing to wet weather and damping-off, plant stands have been cut about 25%, which leaves about a 50% crop. This is somewhat better than that expected a few weeks earlier. However, weather conditions have not improved and predictions can not be made as to the outcome of the crop.

Where the growers have been able to get the fields cultivated and fertilizer applied the plants are doing nicely. However, where the fields have not been cultivated and fertilized the plants are stunted and Alternaria leaf spot is beginning to show up.

A few cars of plants were shipped during the week of April 17-22; quantity movements will not begin before the first week in May. -- G. M. Stone, Emergency Plant Disease Prevention Project.

TOMATO VIRUS DISEASE IN AN OHIO GREENHOUSE: A total of 20 acres of tomatoes were seen in several greenhouses in northeastern Ohio, April 17 to 22. Of these a number showed some loss of vigor due to tomato mosaic. During the past several weeks the amount of sunshine in this section of the State has been low. As a result tomato vines having the mosaic disease are light in color and have set a light crop of fruit. In some houses indole-butyric acid has been used to set fruit with a considerable degree of success. Two of the growers have found that the chemical will stimulate fruit development if applied several days after pollination could possibly have taken place.

In one greenhouse of about 2 1/2 acres severe damage was being caused by a virus disease. The affected plants were somewhat stunted and on a few plants the tip was killed back. The leaves of most of the plants were severely mottled and some had a purplish tinge on the top surface. A few

very young leaves showed purplish veins on the bottom side. Very little bronzing of the upper surface of immature leaves was seen. There were no circular lesions either on the immature fruit or on the leaves. None of the fruit had ripened but green fruits on infected plants were sometimes marked by a mass of irregular brown spots. When examined the woody portion of some stems was found to be slightly discolored.

The insect population of this house was high. Aphis were very common and white flies were numerous. A few thrips were scattered through the house and had been very numerous earlier in the season. Some plants showed a healthy growth on the lower two-thirds of the leaves. A few of the top leaves would show severe virus symptoms which suggests a spread of the disease by insects.

These symptoms as observed did not indicate clearly any described virus disease, but seem to approach those given for the greenhouse form of spotted wilt found in this area. Further efforts are being made to have the virus identified. The grower stated that he expected to have a loss of 30,000 pounds of fruit. -- M. R. Harris, Emergency Plant Disease Prevention Project. April 17 - 22.

LEAF SPOT OF TURNIP GREENS IN GEORGIA: A few fields of turnip greens were observed in the Griffin area, April 17 to 22. Scattered infections of Cercosporella [albo-maculans] leaf spot were found. A high quality crop was being harvested. -- G. M. Stone, Emergency Plant Disease Prevention Project.

YEAR-AROUND OCCURRENCE OF STEM RUST OF WHEAT (PUCCINIA GRAMINIS TRITICI) IN CALIFORNIA

Coit A. Suneson

Observations since early in 1941 indicate that stem rust of wheat overwinters at University Farm, Davis, California, and is present continuously during other seasons of the year. These facts are of interest as they relate to the observations and controlled low temperature experiments of Melander[1], the high temperature studies of Johnson and Newton[2], and the general discussion of stem rust epidemiology by Stakman et al[3].

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1 Melander, L. W. Effect of temperature and light on development of the uredial stage of Puccinia graminis. Jour. Agr. Res. 50:861-880. 1935.

2 Johnson, T., and Margaret Newton. The effect of high temperatures on uredial development in ceral rusts. Canad. Journ. Sci. C., 15:425-432. 1937

3 Stakman, E. C., W. L. Popham, and R. C. Cassell. Observations on stem rust epidemiology in Mexico. Amer. Journ. Bot. 27:90-99. 1940.

Davis is located at approximately the same latitude as Kansas City, Missouri. Winter temperatures seldom fall below 20° F, though frosts may occur from late October through early April. Annual rainfall ranges from 7 to 30 inches, falling from October through May. Considerable cloudiness and fog occur during the winter. The summary of meteorological data for 1942-43 (a near-normal year), as given in Table 1, will more adequately portray the winter climate. In July and August mean maximum temperatures average about 95° F and mean minimums about 55° F. White spring wheats (fall-sown) are grown almost exclusively.

Table 1. Climatic summary of the winter of 1942-43 at Davis.

Month	Number of days with Temperature Max. of 60° F. (or above)	Max. of 70° F. (or above)	Min. of 32° F. (or below)	Clear sky	Precipitation	Total Ppt. (in.)	Min. temp. ° F.
Nov.	24	9	6	15	9	1.65	28
Dec.	8	1	5	8	11	2.66	27
Jan.	12	0	14	11	12	7.67	21
Feb.	18	5	5	8	10	1.23	28
Mar.	28	8	0	13	11	2.30	34

The sequence of host plants during the year, together with the approximate periods during which there is opportunity for the parasite to develop, is about as follows:

(a) November through May. Commercial fields of wheat in the principal-producing areas are seeded from November through February. The crop is infected by wind-borne spores from Southern California or from volunteer wheat in irrigated fields mentioned in (c).

(b) March through August. Commercial fields of wheat in mountain valleys, north-coastal counties, and in western Nevada are seeded from February to June 1. These fields are subject to infection by wind-borne spores from the principal-producing areas mentioned in (a).

(c) Late May through September. Volunteer wheat plants in irrigated fields are harvested in late May or June and the fields immediately reseeded to crops such as beans or sorghums. The offending volunteer wheat plants in this case are not eliminated by cultivation of the new crops because of proximity. They are infected by wind-borne spores from contiguous mountain valleys.

(d) September through winter. Volunteer wheat in irrigated fields is harvested in late May or June and the fields seeded to pasture, cover, or seed crops during September or early October. These volunteer plants are subject to infection from earlier volunteer plants or from commercial fields in high mountain valleys.

That such a cycle may account for the presence of rust spores at all seasons of the year is indicated by numerous observations and by semi-

controlled culture on, or in the vicinity of, University Farm. Thus, apart from the regular plantings during the winter at University Farm, a special catch crop is regularly planted in late April to carry rust between the normal commercial crop and the July-sown rust breeding nursery. This, in turn, infects isolated volunteer plants during September and October which carry rust through the winter. Irrigation, of course, is vital for at least the 2 summer plantings.

Stem rust also has been observed continuously for more than 2 years in heterozygous breeding blocks of wheat x Agropyron. Perennial plants in this population mature and are harvested over a period of 5 weeks. After harvest they renew growth slightly, even without irrigation, and grow more rapidly after advent of fall rains and cooler weather. This continuous life of the pathogen on a single plant is, of course, only an experimental problem at present. Grasses probably are relatively much less important than volunteer wheat in the maintenance of rust inoculum in the principal-producing areas of the State.

During the period under discussion frosts have been severe enough on 2 occasions to produce severe leaf injury to the host plants in advanced growth stages. In no case, however, has there appeared to be any injury to the rust fungus on uninjured leaves. On the other hand, no spread of rust primary infections to other near-by plants has been observed from December through early March. Perhaps even more significant is the fact that uredia develop to normal size and persist from early winter to near plant maturity in late April before teliospores are formed. Likewise, during the spring, summer, and fall no abnormalities in the development or persistence of uredia have been noted. Under the extremes of both winter and summer temperatures rust tends to be most severe at the bases of the stems. At all seasons, the infection centers are always discernible for 2 or 3 generations, despite appreciable wind movement. This localization of rust introduces a special and acute sampling problem in yield nurseries when spread is conditioned entirely by local inoculum. Of the three crops, 1941, 1942, and 1943, only that of 1941 was subject to spore showers from a general epidemic that was first reported in Lower California (Mexico) in February; spread into the Imperial Valley in March; thence, northward in California and eastward into Arizona until, in July, rust was general over Nevada despite the sparseness of wheat fields. Even in that year the rust damage in the wheat breeding nurseries at Davis was far from uniform in the different replications. In one instance wheat in a breeding nursery was inoculated with rust on March 5, 1941, and by April 30 the spread from this was intense only within a 6-foot circle. By May 12 a light general epidemic was noted (presumably from air-borne inoculum) and rust was severe generally by May 22. Contrasted with this was the situation in 1943. The susceptible variety Ramona was inoculated on March 1 and the first uredia therefrom observed on March 22, 2 days after heading. This variety was bordered by resistant varieties. Consequently, the spread on April 14 was confined to about half the length of the 3 16-foot rows of this plot. By May 14 a light, general epidemic was noted in all varieties on the lee or south side of the nursery. Late varieties north of the original infection center were severely damaged by rust during the last 2 weeks of May, while those to the south were practically unharmed. The rust

collected at Davis on April 18, 1943, was identified as Race 56 by the Rust Laboratory at St. Paul, Minnesota.

DIVISION OF CEREAL CROPS AND DISEASES, U. S. BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING, AGRICULTURAL RESEARCH ADMINISTRATION, UNITED STATES DEPARTMENT OF AGRICULTURE.

WEATHER, CROP, AND CEREAL DISEASE CONDITIONS IN KANSAS

C. O. Johnston

This has been one of the coldest, latest, wettest springs on record in Kansas. All farm work and work on experiment station projects are far behind schedule and it now is too late to regain some of the lost ground. For example, the farmers probably were able to plant only about half of the intended acres of oats and potatoes and it now is too late to plant the remainder. Oats at Manhattan, and in the northeastern fourth of the State, were put in during the first week in April - exactly 1 month later than usual. That undoubtedly will affect the yield and expose the crop to late rust attacks.

Winter wheat in the eastern half of Kansas came through the winter in excellent condition and now is making rapid growth. Plants in some fields are jointing in the south-central part of the State. There was little winter damage to wheat anywhere in Kansas this year; in fact, there was some survival of volunteer oats and spring wheat at Manhattan. In the western third of the State the wheat crop is variable in size and vigor depending on seedbed and moisture conditions at sowing time. Much wheat in that area and in some counties in the northern part of the State did not germinate until after moisture fell in January. Such wheat is still very small.

There was extremely little overwintering of leaf rust [Puccinia rubigo-vera var. tritici] in Kansas in 1943-44. It still is extremely difficult to find a single pustule of leaf rust in most fields. The extension pathologist, J. O. Miller, was unable to find any leaf rust in fields in the south-central counties last week-end (April 18-22). At Manhattan it has been found only on wheat sown very early last fall where there was a heavy infection during October and November. Most of the wheat in the eastern half of Kansas was sown late in 1943 to prevent Hessian fly damage. Such wheat was rust-free during the fall and shows no infection now. As usual there has not been the slightest evidence of overwintering of stem rust [P. graminis] of wheat and oats or crown rust [P. coronata] of oats.

Speckled leaf blotch (Septoria tritici) again is extremely abundant and is widely distributed. The disease apparently overwintered in abundance and developed rapidly on lower leaves during March and April. The lower leaves now are dead in many fields, owing partly to attack by leaf blotch. Glume blotch caused by S. nodorum has not been seen yet this spring. Mildew (Erysiphe graminis) also is inconspicuous this spring, in sharp contrast to the past few springs when mildew has been abundant in April.

The cold, late spring undoubtedly will have a marked effect on the development of cereal rusts this year. The average temperature for March

was more than 6° F. below normal and that record has been continued into April. Hypodermic inoculations with leaf rust in the leaf curl made in the rust nursery on April 12 still had not fruited on April 21 although flecks could be seen. Temperatures still are in the low 40's during the night and seldom reach 60° F. during the day. A total of 5.63 inches of moisture fell at Manhattan during March and 7.57 inches already have fallen in April. Both of these figures are far above normal. The soil is thoroughly soaked to a considerable depth. Fields are quagmires and nearly all rivers in the eastern half of the State are flooding. Moisture conditions therefore are favorable for rust but temperatures remain far too low for abundant spore germination and the rapid development of infection.

DIVISION OF CEREAL CROPS AND DISEASES, U. S. BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING, AGRICULTURAL RESEARCH ADMINISTRATION, U. S. DEPARTMENT OF AGRICULTURE.

REPORTS ON DISEASES OF CEREAL CROPS

CONDITION OF WHEAT AND FORAGE CROPS IN OHIO: During the week April 10 to 15 observations were made on clover, alfalfa, and wheat. Growth was just beginning and an effort was made to find diseases which ordinarily cause losses in clover and alfalfa at the end of the winter season. No such damage was seen, possibly due to a rather mild winter. Wheat which was examined was found to be in good condition and free of disease. Many fields were planted in corn stalks. The old dead corn stalks in such fields show an abundance of immature perithecia which are believed to be Gibberella saubinetti [G. zeae]. -- M. R. Harris, Emergency Plant Disease Prevention Project

SCLEROTIAL DISEASE OF WHEAT IN MISSOURI: Specimens of damaged wheat which had been sent to the University of Missouri from Clay County for diagnosis were turned over to the writer for examination. A careful examination of this material revealed the presence of numerous, small, black sclerotia embedded in the tissues at the bases of a high percentage of the killed plants. Since the occurrence of a sclerotium-forming organism affecting wheat had not been previously observed in this area and since the correspondence concerning the specimens indicated that the damage was rather extensive, a survey of the immediate vicinity from which the material was sent seemed advisable.

Approximately 20 to 25 acres of wheat had been killed. The areas affected were in the Missouri River bottoms and consisted of 2 fields, each of about 10 to 12 acres in size, and one large field of approximately 300 acres in which there were a number of small areas where the plants had been killed. Owing to the practically total kill in the 2 smaller fields, these had been disced and replanted to oats. Material was still available, however, from the affected areas in the large field and laboratory examination of plants collected from these spots showed the presence of sclerotia in

approximately 50% of the plants. The 2 fields showing the high percentage of kill were both characterized by a light, sandy soil. The large field was of a clay-loam soil type and the affected areas were situated on the higher, well-drained sections. The grower revealed that the plants were killed in the fall of 1943 prior to freezing of the ground and that a heavy infestation of aphids had been observed on the plants before their death. There was no evidence that the damage had increased during the winter or early spring months. As mentioned previously, not all the dead plants contained sclerotia. This seems to indicate that some other factor or combination of factors caused the death of the plants and that the sclerotium-forming fungus (possibly a Typhula ?) was a secondary invader.

Cultures of the organism are being studied by Dr. C. M. Tucker of the Botany Department in an effort to establish its identity. The role of the fungus in the described situation will then, perhaps, be more clear.--T. W. Bretz, Emergency Plant Disease Prevention Project. Week ending April 12.

SNOW SCALD OF WHEAT IN CENTRAL WASHINGTON: A disease of winter wheat which fits the description of snow scald (Remsberg and Hungerford. Phytopath 23:863-874, 1893) was prevalent in the area of Mansfield and Waterville of central Washington in the winter of 1943-44. Examination of dead plants in the field and in the laboratory reveal a species of Typhula. In some fields a complete loss was sustained, making reseeding with spring wheat necessary. Many fields were affected in small localized areas while others had reduced stands due to destruction of single plants at frequent intervals. Field observations indicate an area of many square miles affected to some degree. Farmers report a complete kill over several thousand acres in the spring of 1943. The area was under heavy snow cover from mid-November to April during the winter of 1942-43. This snow cover came on unfrozen ground. The winter of 1943-44 was more open. Although the snow persisted until late March, the ground was hard frozen before snowfall in the autumn and remained frozen until several days after the snow melted. -- E. J. Anderson, Washington Agricultural Experiment Station.

BLACK STEM RUST IN THE PALOUSE IN 1943: Black stem rust [Puccinia graminis] was present and damaging to cereals in the Palouse section of Eastern Washington in 1943. The past season is the fifth since 1936 in which stem rust has caused very material loss in this area. A brief survey made during August in Whitman County, Washington, revealed damage ranging from a trace to total loss. The latter was in a small field of oats. Head samples from rusted and non-rusted areas taken in nine fields of winter wheat indicated decreases in yield of 2.2 to 48.1% and reduction in test weight of 0.8 to 24.5% due to rust in winter wheat. The variety Hymar sustained the greatest damage among winter wheats. No susceptible non-rusted spring sown wheat was found in the area surveyed. Samples of spring-sown Federation wheat, however, indicated much greater damage than was found in the most severely affected winter wheat. A few fields of Thatcher were grown in the affected area and these were rust-free.

Most winter wheat fields were badly affected only on the lower ground and, particularly, near common barberry bushes. Barberry was heavily rusted

in the area in May. Spring sown wheat was more uniformly affected without regard to the location of barberry. Barley and oats were found seriously affected in the vicinity of barberry. As a result of the damage caused by stem rust and its very apparent close association with barberry, farmers in Whitman County have taken much interest in barberry eradication.--E. J. Anderson, Washington Agricultural Experiment Station

OBSERVATIONS ON FLAX IN THE YUMA VALLEY OF ARIZONA: The production of flaxseed is a new industry in Arizona. Although flax has been grown in the Salt River Valley, the Yuma Valley has become the flaxseed producing center of the State. The acreage at Yuma has increased from 85 in 1934 to several thousand for each of the past 5 years. Approximately 20,000 acres of Punjab were seeded the fall of 1943.

From March 14 to 18, 1944, many flax plantings were visited throughout the Yuma Valley. At this time, the flax was in the blossom and green-boll stage. The only disease observed was that caused by Fusarium [oxysporum f.] lini. It was present in practically every planting visited but only causing very slight damage in every instance. A few fields were observed that had been planted to flax for 5 to 8 successive years. Wilt was as scarce in these plantings as in other fields. A second survey of many of the Yuma flaxseed plantings was made April 19, 20, and 21. Less Fusarium wilt was noticed than during the previous visit. Although Punjab has been the variety commonly planted in the Yuma Valley and is regarded as being susceptible[1] to Fusarium lini, no serious losses have ever been reported since the introduction of flax in 1934. Favorable climatic conditions, high yields, and the lack of diseases have made the Yuma Valley an important flaxseed producing area. -- Wm. G. Hoyman, Emergency Plant Disease Prevention Project.

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[1] Flaxseed production in the far western States. U. S. Dept. Agr. Farmers' Bull. 1793. 1937.